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The purpose of the Guide is to introduce the reader to agriculture in the United States. Here will be found the general facts about the land and how it is used, the major crops and where they are grown, and the principal livestock products. Especial attention is given to farm families, where they live, how they do their work, and the way they help determine public policy as it affects agriculture.

The Guide is prepared primarily for foreign visitors. It is hoped, however, that it will prove helpful also to citizens of the United States.

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# GUIDE TO AGRICULTURE U. S. A.

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# A General View of the United States

The United States is a country of many climates and of many kinds of agriculture. In the extreme South the climate is subtropical; in the North you will find long winters and brief summers.

If you go by plane across the United States from east to west, you will see, first, the many beaches of the Atlantic coast that in warm weather are the playground of vacationing families. Soon thereafter come the inland waterways of the tidewater country, where fish, crab, and oyster industries are important.

Next you will see the Coastal Plain. It is very wide in the South and narrow in the North. It is level and sandy. Much of it is suitable for farming.

Where the rising land begins to

break into the rolling hills is the Piedmont, named from the French words for "foot of the mountain." In this region a few remnants of the original hardwood and pine forests are still left; but most of the land is in fields, pastures, and second-growth trees.

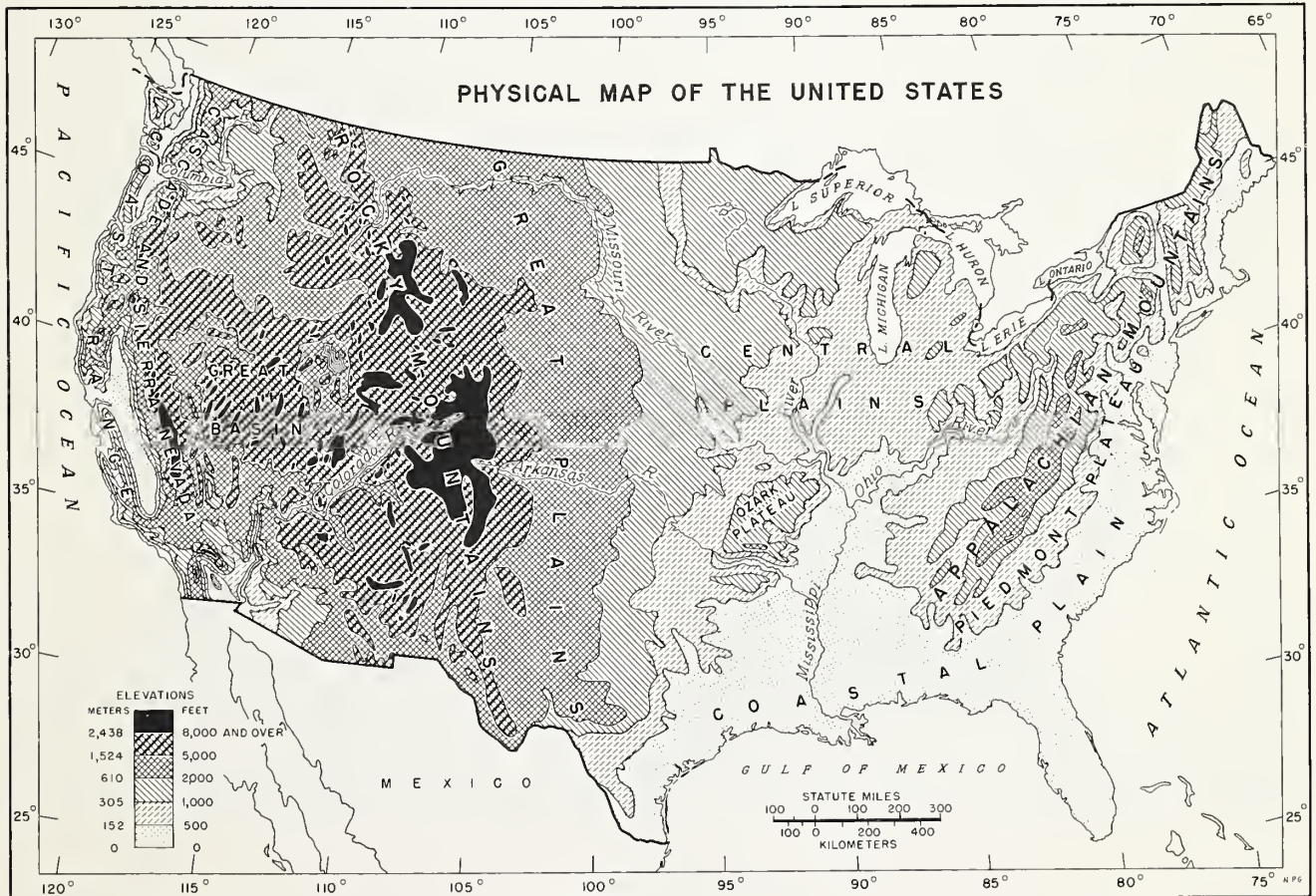
Beyond the hills are the wooded Appalachian Mountains. They receive many warm, humid air masses floating westward from the Atlantic and so have a heavy rainfall. Many clear, spring-fed streams flow out of these mountains.

On the far side of the mountains the land goes down to the central lowlands of the great Mississippi Basin. Through the heart of it flows the Mississippi River. It and its tributaries from the east and west make up one of the great river systems of the world.

The river basin is 1,200 miles wide and more than 1,600 miles long. (This is about 2,000 by 2,500 kilometers.) The northern part of this basin, the "North Central region," also roughly defines the area known as the Middle West.

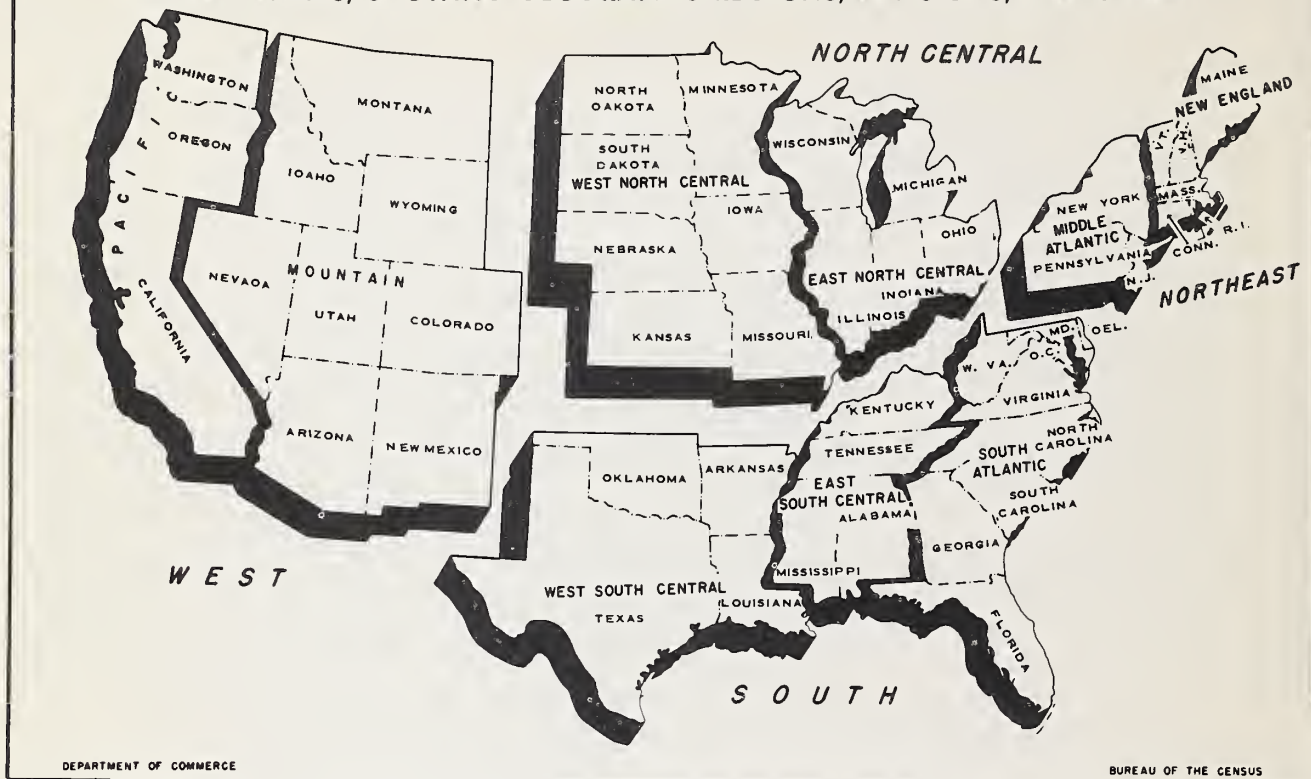
Beyond this river the land rises westward over an 800-mile stretch until it attains an elevation of more than 5,000 feet. In the North this rise is gradual, the land being generally smooth. The central lowlands in the North were originally covered with tall grasses and are called prairies. In the central southern part of the basin, 100 miles west of the river, there are low mountains, the Ozarks and Ouachitas. After these mountains, as in the North, the land rises gradually to more than 5,000 feet. On the whole, the great Mississippi Basin is good farming country.

In the western edge of the basin, rainfall is low and the landscape is generally treeless. This Great Plains country, as we call it, was originally covered with short grasses.





## UNITED STATES, SHOWING GEOGRAPHIC REGIONS, DIVISIONS, AND STATES



At the westmost edge of the basin the Rocky Mountains rise rugged and bare. Other mountain ranges and plateaus lie beyond them. The land is generally rough and dry in this western third of the country. In this vast highland area only the very highest mountains receive much rainfall. This is because most of the air masses that drift in from the Pacific Ocean are drained of their moisture by the high Sierra Nevada Mountain range that lies a hundred miles inland from the ocean.

There is a small range of mountains, the Coastal Range, close to the Pacific coast. Between these mountains and the Sierra Nevada Range there are low-lying valleys, which are excellent for farming when they are irrigated.<sup>1</sup>

In such varied climates, each with its own kind of farming, there are many differences in rural living. At the same time there are many common features of rural life. In most parts of the country there are hard-surface roads and railroads. They

usually have electric and telephone lines strung beside them. They run between the numerous towns and are within easy reach of the farmsteads. Farm homes are not in groups or villages but are scattered separately across the countryside. In front of nearly every farmhouse there is a mailbox. On many farms there are rubber-tired tractors and other machinery. Interspersed among the farmsteads along roads near towns and cities are the homes of part-time farmers and other rural people who drive daily to their jobs in towns and cities. Automobiles and filling stations are common. Churches and free public schools will be seen in most of the towns, and frequently in the open country. Publicly financed schoolbuses carry rural children back and forth from points near their homes to the schools.

### *Farm Life Centers Around the Farm Home*

The farm home in the United States is an independent social and economic unit. It is not a part of a village as in many parts of the world. The farmhouse is nearly always located on the farm tract. Near the

house are the barn and other farm buildings—the wellhouse, corncrib, chickenhouse, hoghouse, and garage or machine shed. Depending on the size of the farm and the part of the country in which it is located, there may be one or more of the following—a silo, a potato cellar, a tobacco barn, or more rarely, a windmill.

Farming is usually a family enterprise. Each member of the family contributes whatever work he is fitted for by age, strength, and custom. On most days, the parents' routine is a busy one. The father has the responsibility for most of the outdoor work and the care of animals and machinery. The mother is responsible for the housework, with daily tasks of preparing meals and tending the younger children, and weekly tasks of washing clothes, ironing, sewing, and cleaning the house. On many farms, the mother looks after the chickens and tends the garden. She may also help with the milking and the washing of the milk vessels. During most of the year, the sons help the father, the daughters help the mother. Farm women almost never plow with a horse or mule, but many of them help with the planting, hoe-

<sup>1</sup> This report is limited to continental United States and therefore does not deal with Alaska, the Hawaiian Islands, and Puerto Rico.

ing, and hand harvesting of field crops in the busiest seasons, and it is not uncommon on farms that have tractors for women and girls to operate them now and then. In the summer, all the family may join in picking, peeling, or shelling home-grown fruits and vegetables to be canned or frozen for winter use.

Most farm families rise early enough each morning to feed and water the animals, milk the cows, and get the breakfast dishes washed before the children leave for school. The school year runs from early fall to late spring, Mondays through Fridays. The children get home from school in midafternoon or late afternoon, depending on the distance the schoolbus has to travel or they have to walk. They then help with the farmwork. In many farm homes, cream is churned into butter, and dough is set to rise for homemade bread; but these practices are not so general as they were earlier, for farmers are now buying more prepared foods.

Practically all children from about 6 to 17 years of age attend free public school. Attendance is compulsory through childhood. The public high schools generally are of the comprehensive type providing the student considerable choice in the program of studies to be completed. In the rural high schools, students interested in preparing for the work of the farm or the farm home may elect the course in vocational agriculture or vocational homemaking. Completion of the course of study in the free public

high school usually qualifies the student for entrance to college or university. The student may then go on to college, or farm at home, or get a job in some town or city. A son may take a considerable share in the operation of the farm, possibly renting additional land to employ his time and machinery more fully and get "a start in the world" so he can marry and establish his own home.

Graduates of the free public high schools who come from farm homes and go to college may continue the study of agriculture and home economics, and then return to the farm. Or they may prepare for business, teaching, or other professions. Many do prepare for these nonfarm pursuits. It is not typical for parents in the United States to put pressure on the child to return to the farm.

Young people in this country are usually free to choose their occupations and their mates. Many have chosen to leave the farm because the occupational opportunities on farms were limited. Young people have migrated from farms in great numbers, for the rural birthrate has been high whereas the number of farmers has been declining, especially in recent years. The fact that there have usually been rather good opportunities in business and industry for those who left the farms has contributed to young people's being permitted to plan their own futures. The development of the individual is considered of prime importance. We find many men in public life in the United States

who like to boast of their farm background, and of how hard they worked as children, chopping wood, carrying water, hauling manure, and making hay. And at that never-ending chore of milking cows!

The pattern of solitary farmstead settlement was begun by the early settlers. Each family wanted a home of its own and wanted to make certain that its rights to the land were recognized. This early pattern remained dominant as the people moved westward and took up new lands. From the earliest settlement years until just a few decades ago, the plentifulness of land and the methods by which its legal ownership could be best established have been dynamic in determining where the farm families would live.

The dispersed settlement in rural United States has put great emphasis on the single-generation family as a social unit and has had other important consequences. It enabled the farm people, cut loose from their Old World traditional ways of life, to find new solutions to practical problems as they came up. Mechanical and social inventions grew out of their fresh approach to old human problems. Self-reliance and independence were necessary.

Independent as they were, the farm people soon learned they must work together to establish local government and obtain community services. In general, having solved these community problems by joint action, they applied the same formula to



Farm families live on their farms.

In the United States, farm homes are widely dispersed over the countryside. The family is a generally self-sufficient economic and social unit.



matters that were of interest to farmers as distinguished from other occupational groups. They formed several farmers' organizations through which they could express their points of view in local and national politics. They established cooperative businesses to buy their supplies and services, and sell their products more advantageously. Farmers' organizations are today important parts of the story of agriculture in the United States. And they are related, as will be seen later, in significant ways to the Government services that are available to our farmers.

After this very general description of the geography of the United States and the life of its farm people, which of course does not apply to all localities, it will be helpful to look at a number of matters, such as the way the land is used, the size of farms, the forms of land tenure, the total production, the use of machinery, and the farmers' levels of living.

### More Than Half Of the Land Is in Farms

The United States has a land area of about 1.9 billion acres. This is equivalent to about 770 million hectares, or nearly 8 million square kilometers.<sup>2</sup> About 61 percent of the total land area is in farms. Roughly half of the land in farms is in cropland and plowable pastures, and half in pasture and woodland that is not considered plowable. The remaining 39 percent of the land area is made up of forest land, unforested grazing land, deserts and other wasteland, and the areas occupied by cities, parks, roads, dispersed rural dwellings, and so on.

If the cropland, pasture, and forest lands of the United States were allotted on a per capita basis, as of 1949,

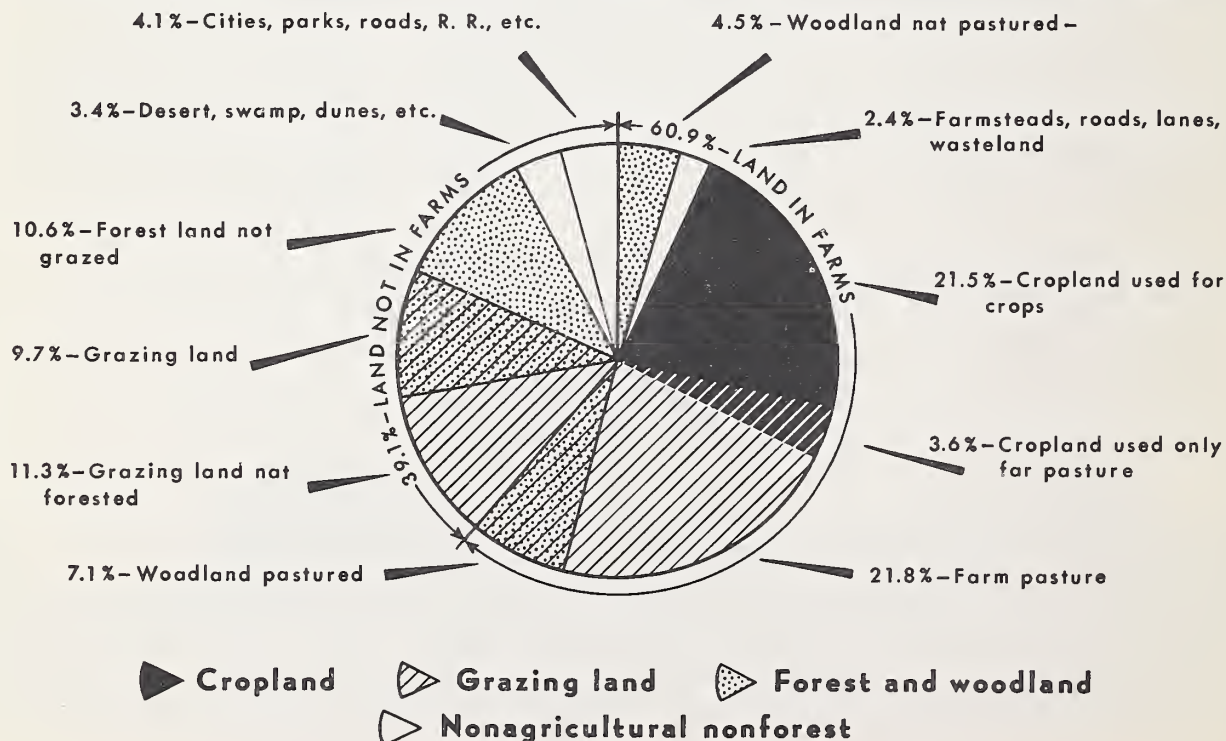
<sup>2</sup>For metric and other equivalents of the acre and other common United States measures, see p. 78.

each person would get 11.3 acres, made up of the following kinds: Cropland used for crops, 2.7 acres; non-forested pasture and grazing, 4.6 acres; woodland and forest, 4.0 acres. The corresponding world total, based on data from the 1950 Yearbook of the Food and Agriculture Organization of the United Nations, was 8.2 acres per capita, classified as follows: Arable or cropped, 1.3 acres; meadow and permanent pasture, 2.3 acres; forest and woodland, 4.2 acres; unused, potentially productive land, 0.4 acre.

Nearly all of the unforested grazing land that is not considered farmable and half of the forest not included in farms is publicly owned. Most of it is in the western half of the country. More than half of the forest and woodlands is grazed to some extent during certain seasons. The grazing of forest land is a usual practice in many parts of the western and southern regions, where

## MAJOR USES OF LAND, 1950

Total U. S. Land Area: 1.9 Billion Acres (770 Million Hectares)



there is some grass under the thin stand of trees.

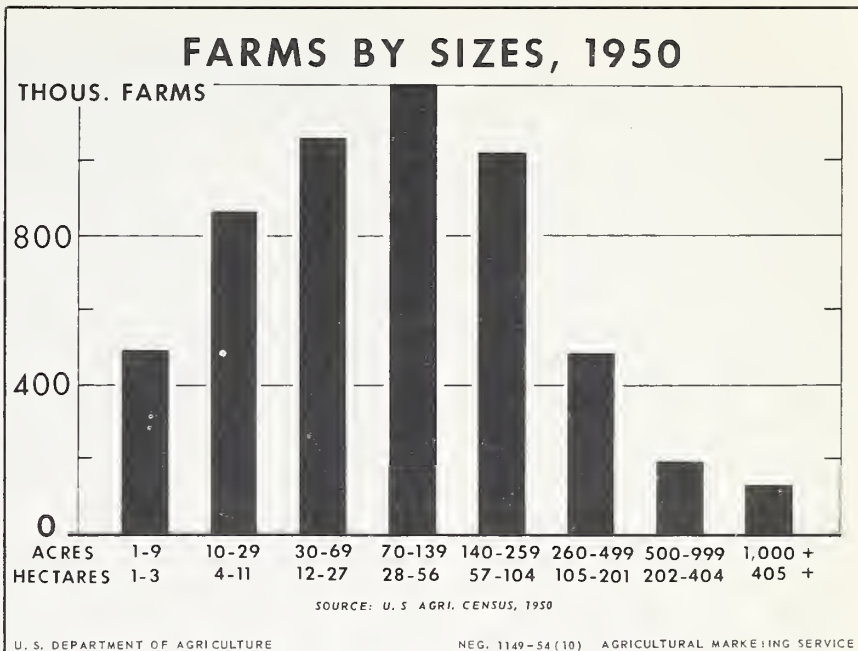
About 26 million acres (10 million hectares) of land have been irrigated. These tracts are scattered and are chiefly in the western half of the country. (See maps, p. 19.) About 50 million acres have been improved by individual farm drainage, and in addition, 103 million acres were reported in organized drainage enterprises in 1950. Most drained land is around the Great Lakes and along the Mississippi River and in its upper basin.

Only about 1 percent of the land area of the United States is in cities and towns of 1,000 or more population, and about another 1 percent is used for the network of roads and railroads that connect these cities and towns.

### Farms Vary Greatly in Size

Farms in the United States in 1950 numbered 5.4 million.<sup>3</sup> Three-fifths

<sup>3</sup> The most recent data available have been used throughout this publication. The 1954 Agricultural Census had not been tabulated when this volume went to press.

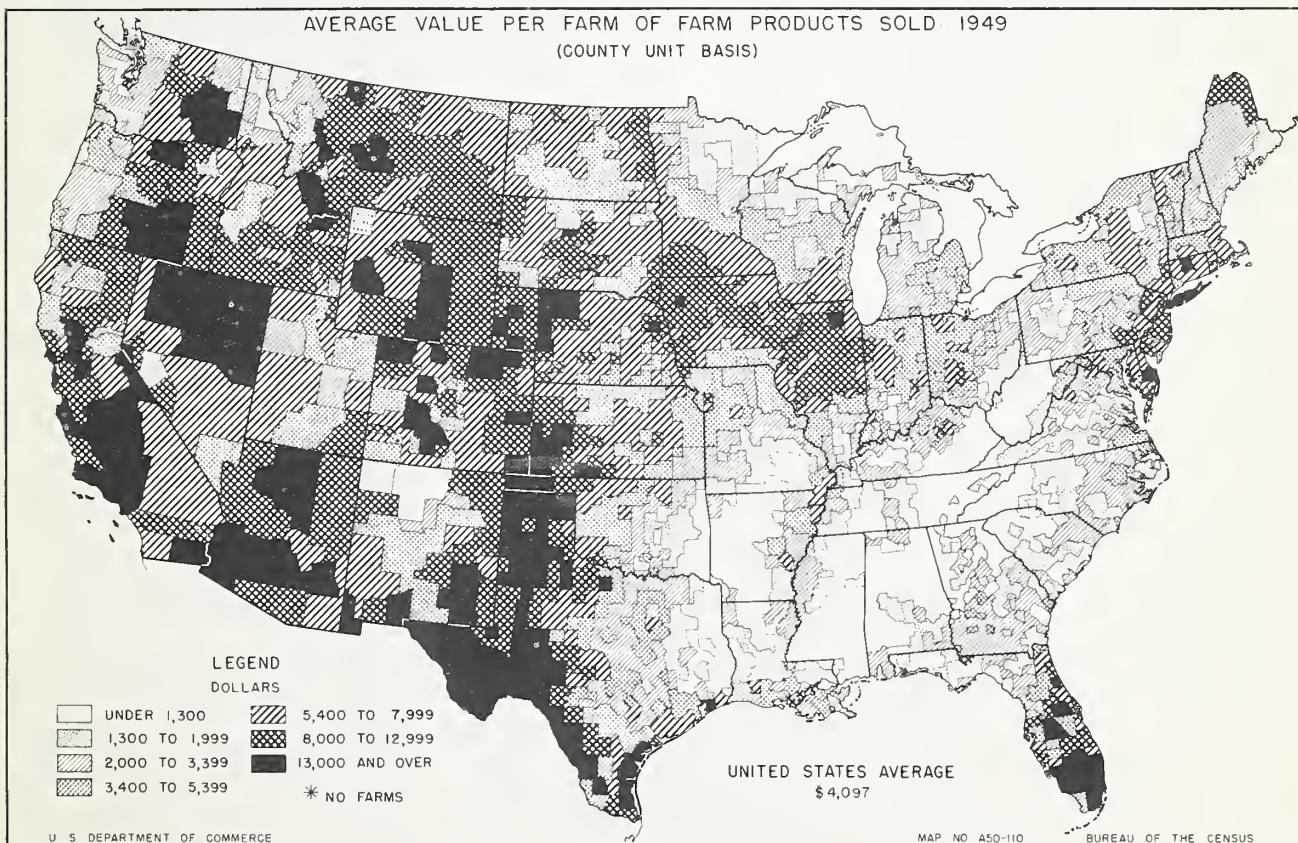


of them were in the older, humid third of the country east of the Mississippi River. Only one-twelfth of the farms were in the westmost third, which contains many high, rugged mountains. The remainder of the farms

were in the middle third of the country, between the Mississippi River and the Rocky Mountains.

Farms range in size from less than 3 acres to more than 10,000 acres. In 1950, there were 76,606 farms of less

AVERAGE VALUE PER FARM OF FARM PRODUCTS SOLD 1949  
(COUNTY UNIT BASIS)





than 3 acres. Farms of over 10,000 acres were not separately counted, but it is likely there were more than the 7,000 found by the previous census. The average size of farm was 216 acres (87 hectares). However, this average is influenced by some extremely large farms in the dry West, and does not represent a typical farm. The median farm has less than 100 acres (40 hectares).

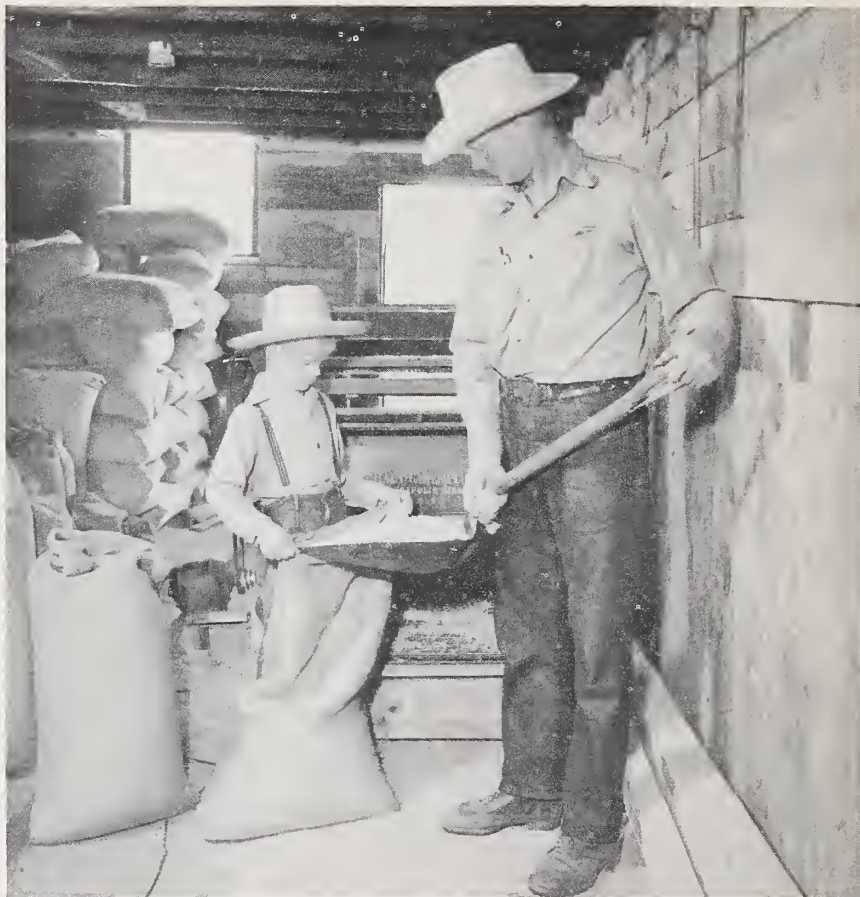
Farms with the larger acreages are most common in the higher, dryer, western parts of the country. The smaller farms are most numerous in the South and East, in the irrigated areas of the West, and in the environs of the large cities, where more intensive farming is carried on, such as fruit, vegetable, and poultry farming.

### ***There Are Many Residential and Part-Time Farms***

Nearly a third of the farms counted in the 1950 census were "residential" or "part-time" farms. These places were considered as farms, because of having a certain minimum of agricultural production, but their operators were usually more interested in the farm as a place to live, rather than as a place to earn a living. The million or so residential farms sold an average of only \$82 worth of farm products in 1949. The half million or more part-time farms averaged \$612 in sales of farm products, while the 3.7 million "commercial" farms (which include practically all of the remainder) sold an average of \$5,858 worth of products. Because of the great differences between these classes of farms, one must be careful in interpreting averages based on all types of farms combined, such as those shown in the accompanying map. In most cases the operators of residential and part-time farms have paid jobs off the home farm, from which they obtain more income than from farming.

### ***Incomes of Commercial Farms Vary Widely***

Commercial farms, though comprising about two-thirds of all farms, produced over 97 percent of the value of all farm products sold in 1949. This class of farms may be broadly defined as those operated as business units to provide the major source of income for the farm family. They are primarily agricultural producing units, rather than rural living units. The



A Colorado farmboy helps his father clean and sack seed.

Children commonly help with chores. More than four-fifths of all farmwork is done by farmers and members of their families, the rest by full-time hired workers or seasonal workers.

income of these farms from sales of products varied in 1949 from around \$250 to over \$100,000, with about 3 percent of commercial farms having sales of over \$25,000. These largest scale farms are most numerous in the Pacific States, the western Corn Belt, and the Southern Plains. Many of those in the Pacific States specialize in fruit and nut production or vegetable production, while many of those in other areas are livestock or cash-grain farms.

Farms of intermediate income are most heavily concentrated in the North Central area and these include relatively more dairy farms and general farms. There were about 700,000 farms with less than \$1,200 in farm product sales in 1949, classed as commercial farms because these relatively low incomes were still the major source of the family's income. Farm output per worker on these farms averages less than a fourth of the

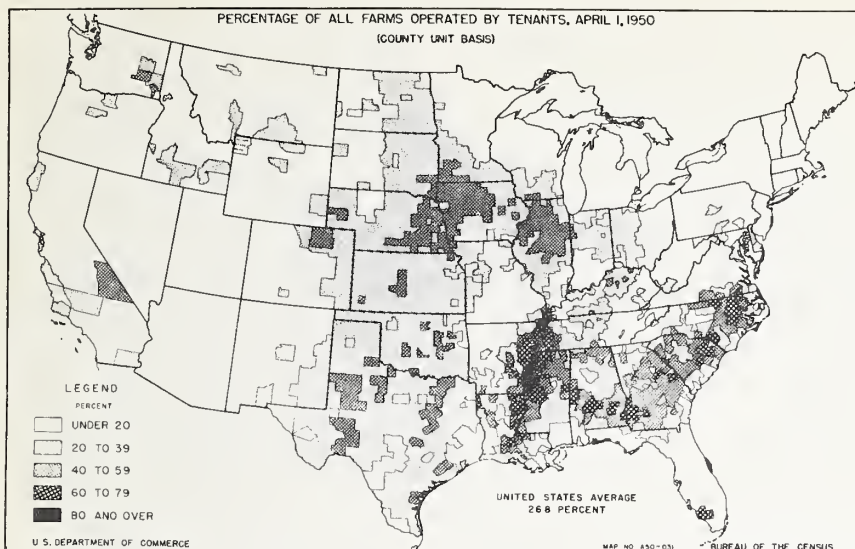
output on medium and large commercial family farms. The low-income farms are most numerous in the South and they include a large proportion of cotton farms.

In addition to the cash income from sales of farm products, commercial farms had varying amounts of production for home use. It has been estimated that all commercial farms produced an average of \$424 worth of products for home use in 1949, compared with an average of \$5,858 in products sold.

### ***The Majority of Farmers Are Landowners***

Almost three-fourths of all farms are operated by owners or part owners, and the remaining fourth by tenants. About 1 farm in 200 is operated by a hired manager.

Farms operated by managers average the largest acreage of any tenure group. The next largest acreage is



## Farm Tenancy Is of Different Types

As will be seen from the accompanying map, the smallest rates of farm tenancy are in the Northeastern States and in the western fourth of the country. The highest rates occur in the South, especially in the Atlantic coastal plains areas and along the Mississippi River.

Farm tenancy is of four major types: Cash tenants, who pay an annual cash rental for the use of the land; share-cash tenants, who pay part of the rent with a share of the farm products and pay the remainder by cash; share tenants, who pay a share of either their crop or livestock products or both; and sharecroppers who, unlike the other types of tenants, do not make farming decisions, nor contribute much, if any, of the production materials. They contribute their labor under supervision and receive a share of the crop.

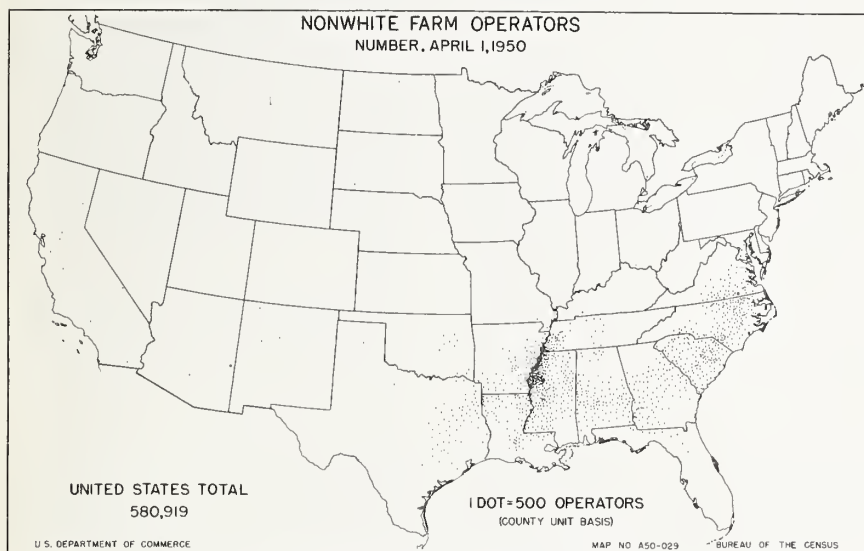
Cash tenancy is the most independent type of tenancy and it is the most prevalent type in areas having the largest proportions of owner-operators, such as the Northeast and Far West. Sharecropping, the most dependent type of tenancy, is centered in the South, where the proportion of owners is lowest.

## Nonwhite Farmers Are Numerous in Some Areas

In 1950, there were 581,000 nonwhite farmers in the United States, or 11 percent of the total. They are most prevalent in the Southeastern States and in scattered counties in the western half of the country.

Negroes make up most of the nonwhite farmers in the Southern States, where 96 percent of all nonwhite farmers are located. Most nonwhite farmers in scattered counties of the West are American Indians. Many of them live on Indian reservations. Chinese and Japanese farmers are most numerous in California, but in 1950 they made up less than 3 percent of the farmers in that State.

Generally speaking, the farms of the nonwhite farmers are smaller than those of the white farmers, and nonwhite farmers are much more likely to be tenants. In the South, where most nonwhites are Negroes, the farms of nonwhites averaged 47 acres in size, while the average farm



operated by part owners, whose farms averaged over 500 acres in size in 1950. Part owners are farmers who own part of the land they operate and then rent from others the remaining land they use. Many of them are younger men who want to expand their farming faster than they can buy land.

Tenants farm land that is entirely rented from others. They move of-  
tenter from one farm to another than do part or full owners. In 1950, the average tenant operator was 41 years of age and had been on the farm then occupied for only 6 years. Tenant farms are much smaller than part-owner farms, but slightly larger than the average fully owned farm. The proportion of farms operated by ten-

ants is higher in the more fertile areas of the country. Often a tenant-operated farm is owned by a close relative of the tenant.

Full owners own all the land they use. Nearly 60 percent of all farms were fully owned by their operators in 1950. Seventy-one percent of these farms were free of mortgage debt, and those operators having mortgages paid an average of 4.5 percent annual interest on the debt. The relatively smaller size of the fully owned farms results from the fact that this class includes a large proportion of the small part-time and residential farms. The farms of many of the older farmers who are beginning to reduce their farming operations are also in this class.



Table 1.—United States production of principal agricultural products in 1953

Products	Production in United States measures				Production in metric measures		
	Unit	Total	Per farm	Per capita	Total	Per farm	Per capita
		<i>Millions</i>			<i>Million met. tons</i>	<i>Metric tons</i>	<i>Kilograms</i>
Corn, all.....	Bushels.....	3, 177	579	20	81	14. 7	506
Wheat, all.....	do.....	1, 169	213	7. 3	32	5. 8	199
Oats.....	do.....	1, 216	222	7. 6	18	3. 2	111
Cotton.....	Bales.....	16. 5	3	<sup>1</sup> 52	3. 7	. 7	23
Irish potatoes.....	Bushels.....	374	68	2. 3	10	1. 9	64
Commercial vegetables, all.....	Pounds.....	38, 018	6, 933	238	17	3. 1	108
Fruits.....	do.....	33, 238	6, 061	208	15	2. 7	94
Red meat.....	do.....	24, 795	4, 521	155	11	2. 1	70
Poultry meat.....	do.....	3, 987	727	25	1. 8	. 3	11
Milk.....	do.....	121, 219	22, 104	759	55	10. 0	344
Eggs.....	Number.....	61, 704	11, 252	387	<i>Millions</i> 61, 704	<i>Number</i> 11, 252	<i>Number</i> 387

<sup>1</sup> Pounds.

of white operators was 175 acres in size. Sixty-five percent of Southern nonwhite operators were tenants compared with 26 percent of Southern white operators. Among Negro farmers, sharecropping was especially prevalent. Out of every 100 Negro farmers in the South, about 35 were sharecroppers, while only 7 of every 100 white farmers in the South were sharecroppers.

The relatively small acreages of the nonwhite farmers is related to the prevalence among them of sharecropping, which is characteristically a small farming operation. The average size of farms for nonwhite sharecroppers is about 28 acres. The acreages of nonwhite owner operators are also noticeably smaller than those of the white owner operators—about a third as large in the South.

Much hired farm labor is obtained from nonwhite families in the rural areas and towns of the South. This labor is especially relied on for seasonal work in cotton, which is still hoed and picked mostly by hand, although mechanization is making much progress.

### ***The Total Agricultural Production Is Large***

That the United States is not primarily an agricultural country is shown by the fact that only 14 percent of the total population are farm people. However, because of the high productivity of those working in agriculture, total agricultural production is large. Table 1 shows 1953 production for principal agricultural products, including per farm and per cap-

ita averages with metric equivalents. The hypothetical average farm in January 1954 had 9 hogs, 6 sheep, 80 chickens, and 17 head of cattle, about a fourth of which were milk cows. There is of course no average United States farm and perhaps no farm that produces in exactly these proportions.

The United States is the world's largest producer of corn, wheat, oats, cotton, tobacco, fruits, commercial vegetables, meat, chickens, turkeys, milk, and eggs. Most of the corn and oats and some of the wheat show up in the market as pork, grain-fed beef, milk, and eggs, rather than as corn and wheat foods. The diet of the people of the United States is characterized by a relatively low consumption of cereal and a high consumption of fruits and vegetables and of meat, milk, eggs, and other animal products.

The average farm family in the United States grows enough farm products to supply itself and five other families. In addition, United States agriculture is a major supplier of wheat, cotton, tobacco, lard, tallow, corn, soybeans, and many other commodities to the rest of the world.

Of the 340 million acres of crops harvested in 1953, nearly a tenth were used to produce export products.

### ***Most U. S. Farms Are Family Enterprises***

Most of the farmwork done on farms in the United States is performed by the farmers themselves and members of their families. Thus the 1950 Census of Agriculture showed that only one-half of all farm operators employed any farmworkers for

cash wages at any time during 1949. Of those who did employ such "hired labor," more than a third used so few man-days of hired help as to spend less than \$100 in cash wages during 1949. Only 7 percent of the farms with hired labor during the year had cash expenditures for this purpose of as much as \$2,500. The number of very large farms that employ hired workers in great numbers is quite small.

For the great majority of operators, farming is essentially a family enterprise. Of the average number of persons working on farms during the year, approximately four-fifths are the farmers and unpaid members of their families and only about a fifth are hired workers. The highly seasonal nature of farmwork means that a great many of the unpaid family workers as well as of the hired workers are employed on farms only for short periods of the year, mostly during the summer and fall harvest operations. This is illustrated by data on the composition of the 1952 hired farm working force which show that the total number of different persons who did some farm wage work in the course of the year amounted to nearly 3 million individuals 14 years of age and over. However, 1 million of these were persons who did less than 25 days of farm wage work in the course of the entire year. Only slightly over 600,000 were regular hired farmworkers who worked 6 months or more for one farmer during a year. The remaining 1.4 million were seasonal workers who were employed on farms for periods varying



from 1 month to about 6 months during the year. Only about 350,000 out of the 3 million individuals could be classified as migratory farm wage workers. These workers leave their home communities for temporary employment at seasonal farm jobs in counties other than the ones they customarily reside in. Since World War II the seasonal farm working force in the United States has been supplemented by workers brought in from Mexico and the British West Indies for temporary employment on farms in the United States. During 1952 about 200,000 farmworkers from Mexico were admitted for seasonal farm jobs. Smaller numbers of workers from Canada and the British West Indies were also employed.

There has been a longtime downward trend in the number of farmworkers in the United States, both in family and hired workers. Advancing technology in agriculture along with mechanization has made possible large increases in farm production with fewer workers. These trends in farm production and employment became especially pronounced during and after World War II.

In 1954 the gross farm income in the United States was approximately \$34 billion. About a third of this was net farm income—that is, the amount

after production expenses are deducted. The principal production expenses were current operating expenses for feed, fertilizer, machinery, and so on; maintenance and depreciation of buildings, machinery, and other equipment; hired farm labor; net rent to nonfarm landlords; taxes; and interest on farm mortgages.

### ***Many Farms Have Modern Machinery But Not Nearly All***

Machine power is in common use on United States farms, especially tractors with accompanying harvesting machines, plows, harrows, and other tools. A little over half of all farms have tractors, but a larger percentage of commercial farms are so equipped. Nearly 90 percent of all fieldwork is done with machines and equipment operated by tractor power. Many farmers who do not have tractors hire some tractor service from their neighbors or from "custom operators" who go from farm to farm, selling such services. About a third of all farms have motortrucks, and nearly two-thirds have automobiles.

As of January 1954 it is estimated that there were 590,000 combines on farms, and that about 90 percent of wheat and other small grains, soybeans, and grain sorghums were harvested with these machines. There

were 640,000 corn pickers, which were used to harvest 75 percent or more of all corn for grain. Around 70 percent of the hay is baled, mostly with pickup balers. Tractor machines are used for more than four-fifths of the breaking and disking of land.

For many years farmers used their tractor power principally for heavy operations. However, with the decrease in numbers of work animals and the increase in numbers of tractors, more and more of the lighter operations are also being done with tractors. The bulk of the lighter field jobs such as planting corn and cotton, cultivating row crops, and raking hay is now performed with machine power. Milking machines increased fourfold in the last 15 years and are now standard equipment on most of the dairy farms with 6 or more cows.

Census data on the kind of power available on farms give some indication of the means by which crop production is carried on. Of the 47 percent of all farms reported in the 1950 census as having tractors, about half also had horses or mules. Nearly a fourth of all farms had neither a tractor, nor a horse or mule.

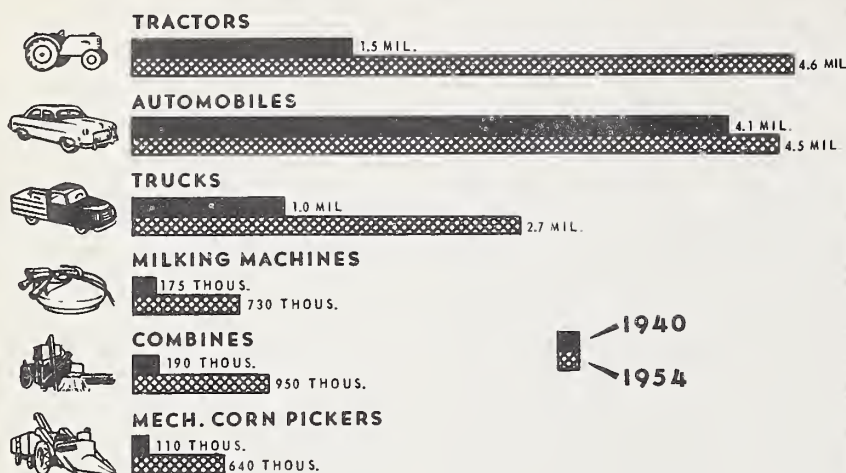
Broadly speaking, the highest percentages of farms that have tractors are in the more level and fertile areas where farms are in relatively large



Draft animals and tractors are used on farms.

A. Many small operators still depend on horses or mules. B. Several sizes of rubber-tired tractors are common. They perform many farm operations.

# PRINCIPAL MACHINES ON FARMS, 1940 AND 1954



U. S. DEPARTMENT OF AGRICULTURE

54 (9)-907 AGRICULTURAL RESEARCH SERVICE

tracts, such as the Middle West and the Great Plains. Farms that do not have tractors are concentrated in the sharecropping parts of the lower South, in mountainous and hilly low-income areas, and in the part-time farming, commuter areas around the larger population centers. On these farms, as on many that have tractors, much hard work is still done by hand.

## Most Farm Families Have Household Conveniences

Several household conveniences are common in farm homes. In 1954, 92 percent of all farms had electricity from powerlines and 44 percent had telephones. More than 92 percent of all farms had radios in 1950, 59 percent had electric washing machines, 63 percent had mechanical refrigerators, and 38 percent had electric water systems.

In most farm homes, as in most other United States homes, the housework is done by the women and girls of the family. In the lower South there is still some employment of Negroes as domestic servants. In most parts of the country, a hired cook is never used on the farms, or only on

some special occasions, as at the time of a home wedding or for the feeding of several extra workers for a meal or two at harvest time. But, more generally, on these occasions the women from neighboring farms share the extra work. When a new baby arrives, a friend or relative usually comes to help for a short time, with or without pay.

There were other indications of the level of living on farms in 1950. Seventy-nine percent of the farm youths 14 to 17 years of age were still attending school compared with 88 percent of urban children in this age group. About two-thirds of the farm homes were located on or near an all-weather road. Seventy-eight percent of all rural babies were born in hospitals in 1950.

## U. S. Farmer's Debt to the World

The farmers in the United States have had a high per capita resource base at their disposal. More than a sixth of the cultivated land area of the world is in this country, which contains only a sixteenth of the world's total population. The only other countries that have this much

cultivated land per capita are the sparsely settled countries, like Canada, Australia, and Argentina. Furthermore, climatic conditions are generally favorable for farming in great areas of this country. Beyond all this, most of the farm people of the United States are generally independent and self-reliant, and so have been interested in farm machinery and other scientific improvements.

Even so, the United States farmer is heavily indebted to the rest of the world. Most of his farm products were first developed outside the borders of the country. Only a few are from continental United States. Best known are the turkey and the cranberry, traditional delicacies of Thanksgiving and Christmas dinners.

As will be seen from the accompanying map, corn and beans came from Mexico; tobacco and the tomato, potato, and peanut from South America; clover, cabbage, and the apple, pear, plum, and beet from Europe; the date, grape, and watermelon from Africa; rice, cotton, lespedeza, alfalfa, and the peach, orange, banana, and soybean from Asia; and hemp and the cucumber from the Pacific islands. Farm animals, too, are from different parts of the world; the cow, horse, rabbit, duck, and goose from Europe and Asia; the hog and sheep from Europe; and the chicken from Asia.

Many of the skills in growing crops and taking care of livestock had been developed and fairly well standardized before the European settlers came to America. Many people have shared in bringing new farm products to the United States: Ship captains, missionaries, consuls, explorers, early settlers with their precious packets of seeds, and more recently the agricultural societies, Government offices, and scientific organizations.

The farmer of the United States is still interested in trying out new products. He is also interested in making his crop seed, breeding stock, and skills available to people all over the world who may profit from their use.





# The Farm People and Where They Live

In 1954 the population of the United States was about 162 million. Of this number 22 million, or 13.5 percent, were farm people. Most of the non-farm people lived in cities, but a sizeable fraction of them lived in small towns or in the open country on places not qualifying as farms. There were about four city dwellers (living in cities of over 2,500) for every farm person.

The farm family constitutes a highly cohesive social and economic unit. The fact that the family lives in a house off to itself on its own farm encourages members of the family to take part in the farm and housework. It also results in more social activity of family members within the home

than is usual in most other occupations.

Many people now living in the cities of the United States were born and reared on farms. The birthrate is higher among farm families than among families with other occupations, and in normal times there is a continuous movement of population from farms to cities. The proportion of persons under 14 years of age was 28 percent higher for the rural than for the urban population.

As compared with the urban population, higher proportions of the farm population are native born and non-white. The characteristics of the farm people differ in different regions, as will be described in a later chapter.

## *Climate and Soils Affect Distribution of Farms*

As will be seen from the map on the next page, the number of farm people varies greatly from one part of the United States to another. The principal reasons for the uneven distribution of farms and farm people are shown graphically on the following pages.

Except for the valleys of the Pacific coast, farms are generally much more numerous in the eastern part of the United States than in the western. The heaviest concentrations are found in the southern Appalachian region, where hillside farms have been subdivided generation after generation, and in the lower Mississippi Basin, where sharecroppers and related small-type tenant farmers are more common than in any other parts of the country. Farm population is greater in relation to land resources in this southeastern area, a fact which partly explains the labor-intensive



In the United States, some farms are small and some are very large.

A. In Lancaster County, Pa., as in most well-watered parts of the country, farmsteads are rather close together. B. This farm is in California. Where rain is scarce and there is no irrigation, farms are usually very large.



types of agriculture found in this region.

Most of the land in the eastern half of the country, where most of the farms are located, is less than 2,000 feet above sea level. Much of the western half is in high plains of 3,000 to 5,000 feet, and mountainous areas of 8,000 feet or more. Naturally, farming can be carried on most readily in the more level parts of the Mississippi Basin, in the southeastern coastal plains, and in the irrigated valleys of the West.

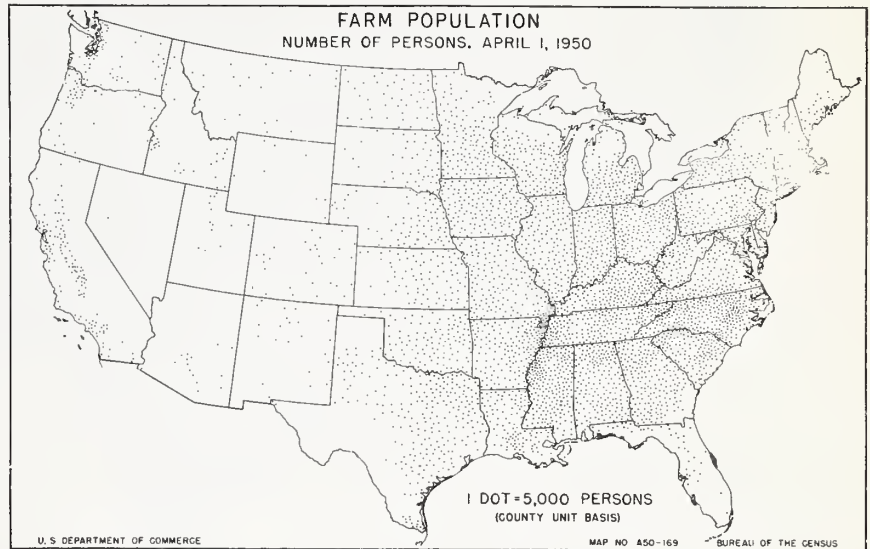
In the eastern half of the United States, the rainfall is generally heavy and is enough for successful farming. In the western half there is a scarcity of rain, except in the far northwestern area and in the scattered high mountains where the land is very rough, or the growing season is short, or both.

When the maps showing rainfall and growing season are compared with the relief map, it will be seen that the growing season is generally longest in the areas that have ample rainfall and relatively low elevation.

An outstanding exception is the inland valleys of the central and south Pacific coast, where the rainfall is light and the growing season is long. Here irrigation farming has become the dominant type of agriculture. There is some deep-well pump irriga-

tion, and much water is used from the streams that flow down from the high mountains.

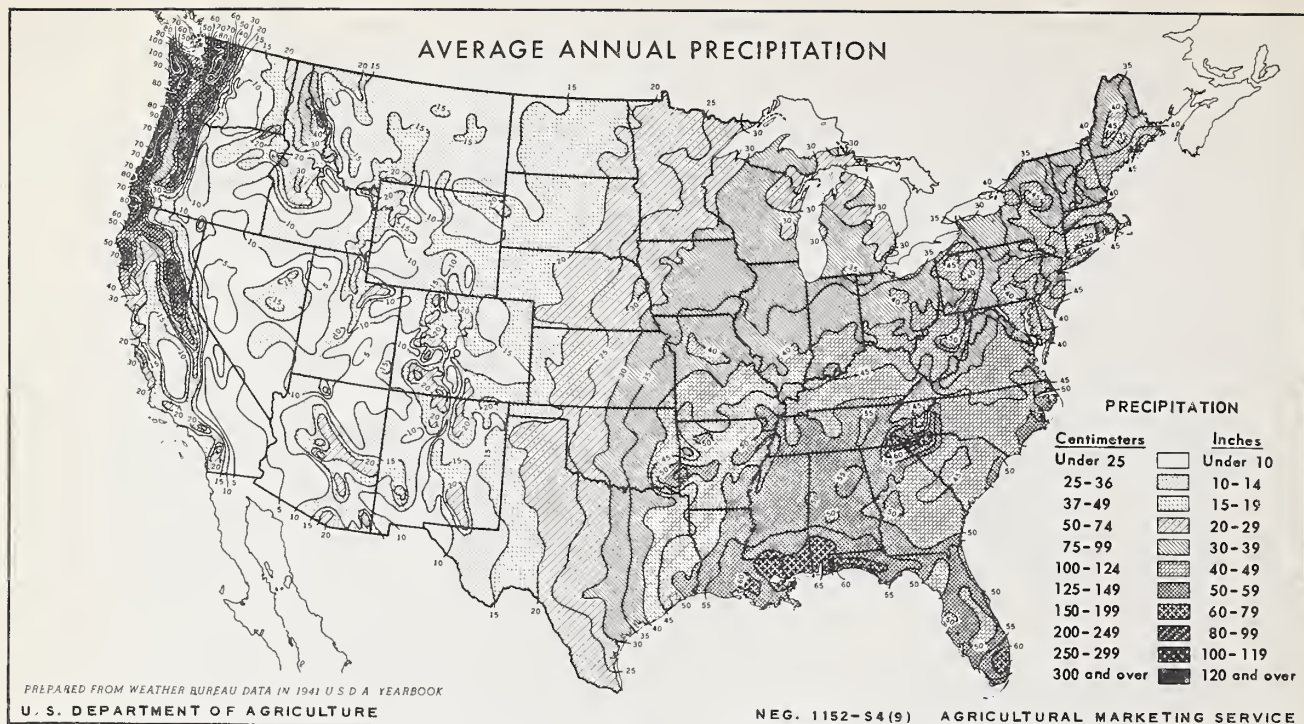
The best naturally watered farming soils are the prairie soils of the Middle West and the gray-brown podzolic soils to the east of the prairies.



LAND RELIEF OF THE UNITED STATES





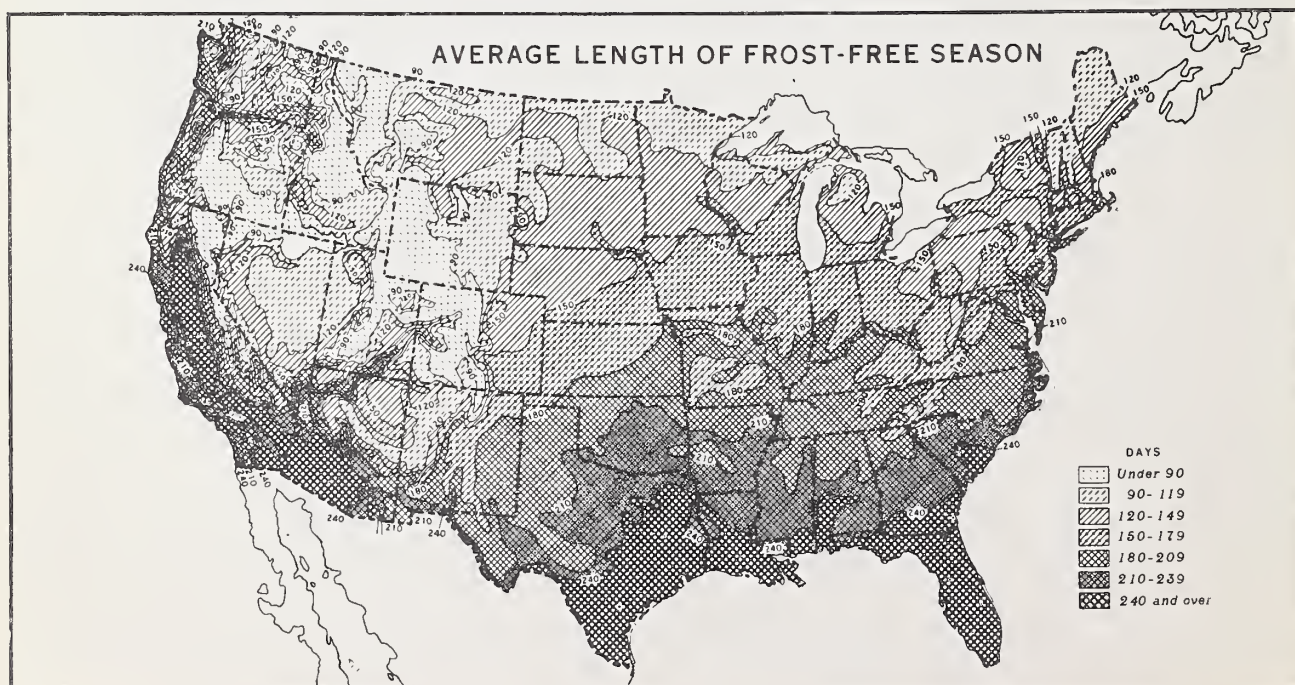


The red and yellow soils of the Southeast, though characterized by low organic content and pronounced leaching from heavy rains, can be farmed successfully under proper management. Other good farming lands, though with limited rainfall, include the northern and southern

chernozem, and the northern dark-brown soils in the Great Plains areas east of the Rocky Mountains. The Pacific valley soils are good for farming when water can be found for irrigating. Soils that are least suitable for farming include the gray-brown podzolic soils of the extreme North-

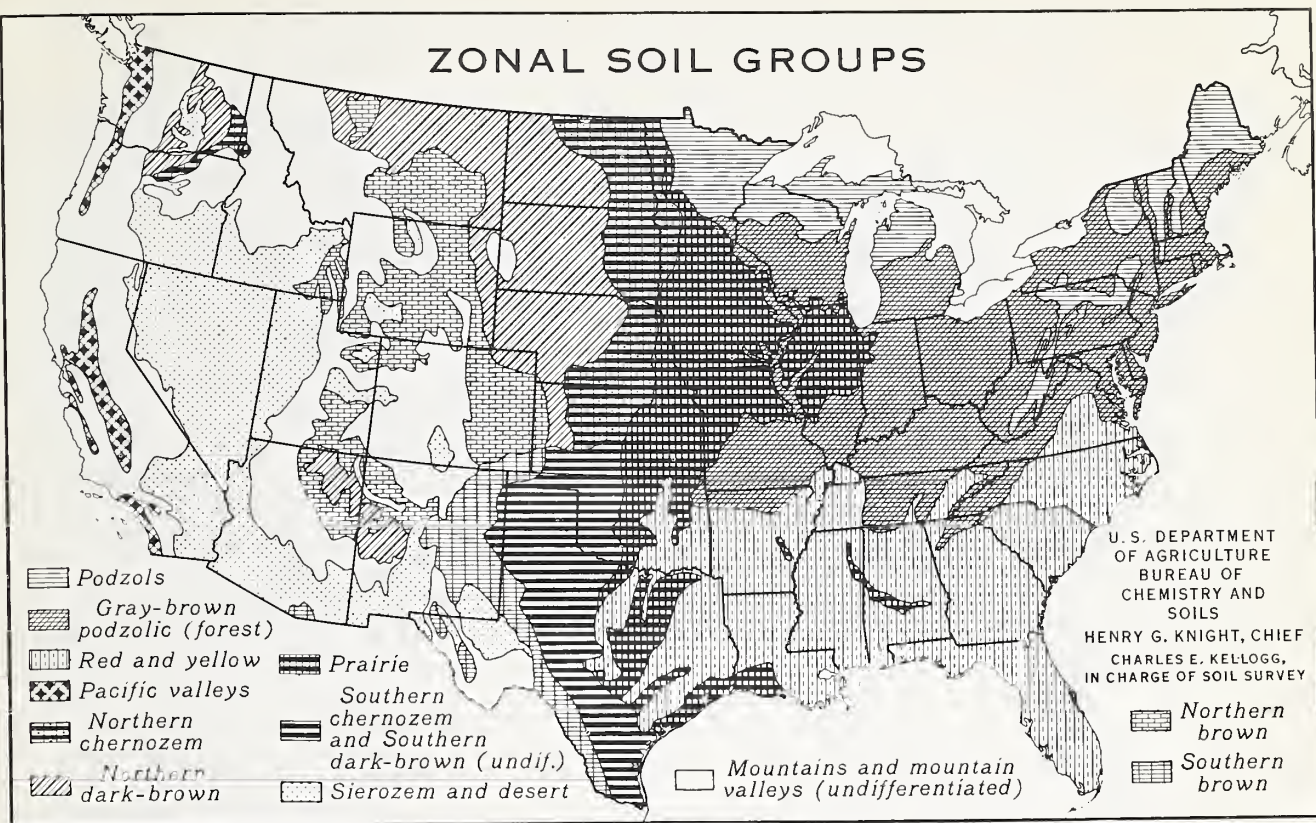
east and upper Great Lake areas, the sierozem and desert soils of the Far West, and the more rugged areas of the Rocky Mountains.

Variations of elevation, soil, temperature, and rainfall shown on the previous maps produced the native





## ZONAL SOIL GROUPS



vegetation indicated on the map below:

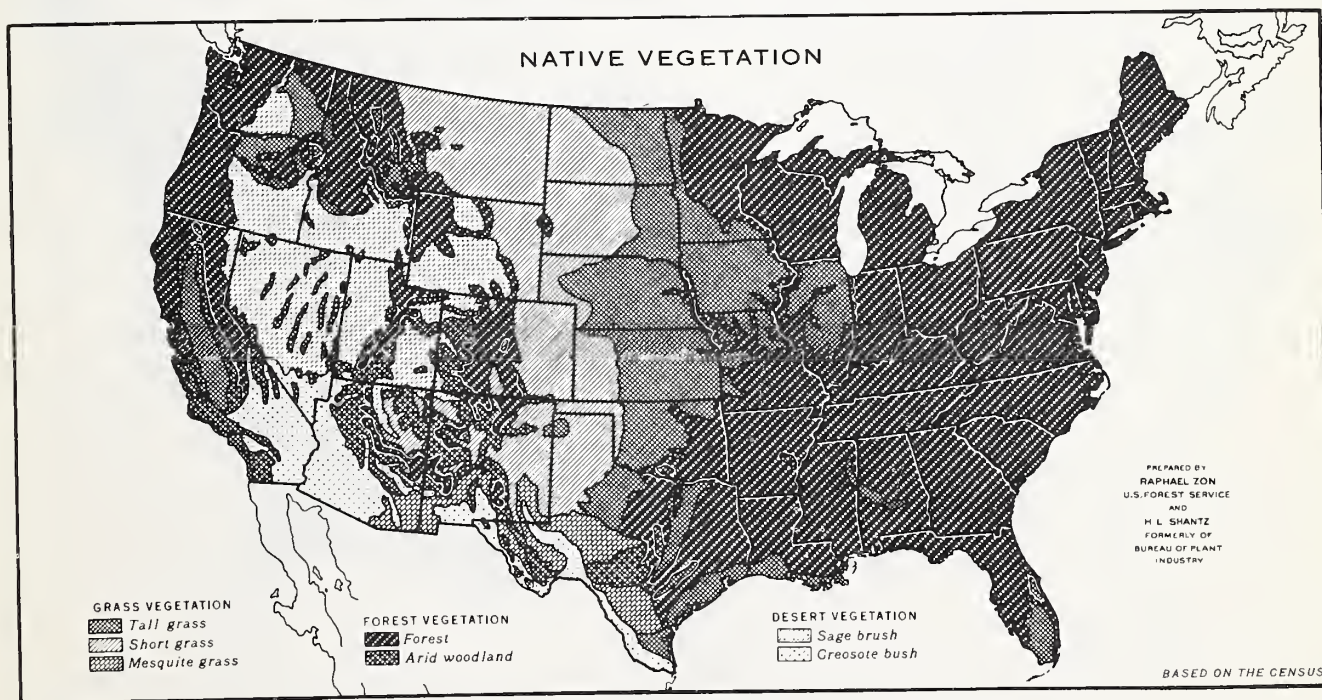
Forests in the eastern part of the country, tall grasses in the Midwest

prairie areas, and short grasses in the high plains.

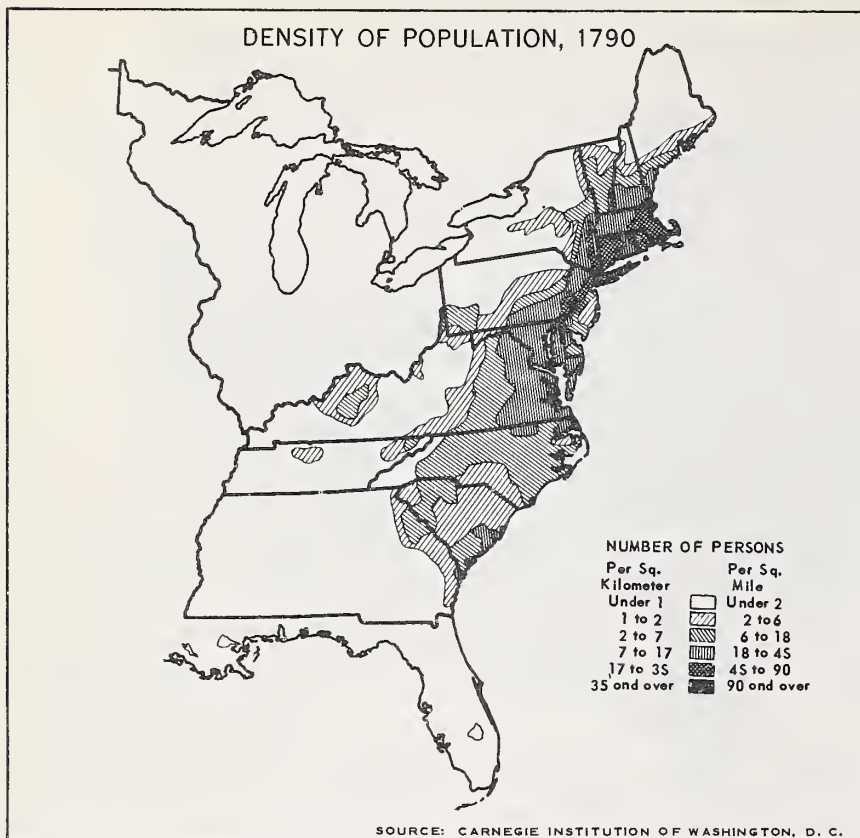
The western mountain region shows great diversities:

Forest, arid woodlands, short grass, mesquite, sage, and the creosotebush and cactus of the desert.

## NATIVE VEGETATION





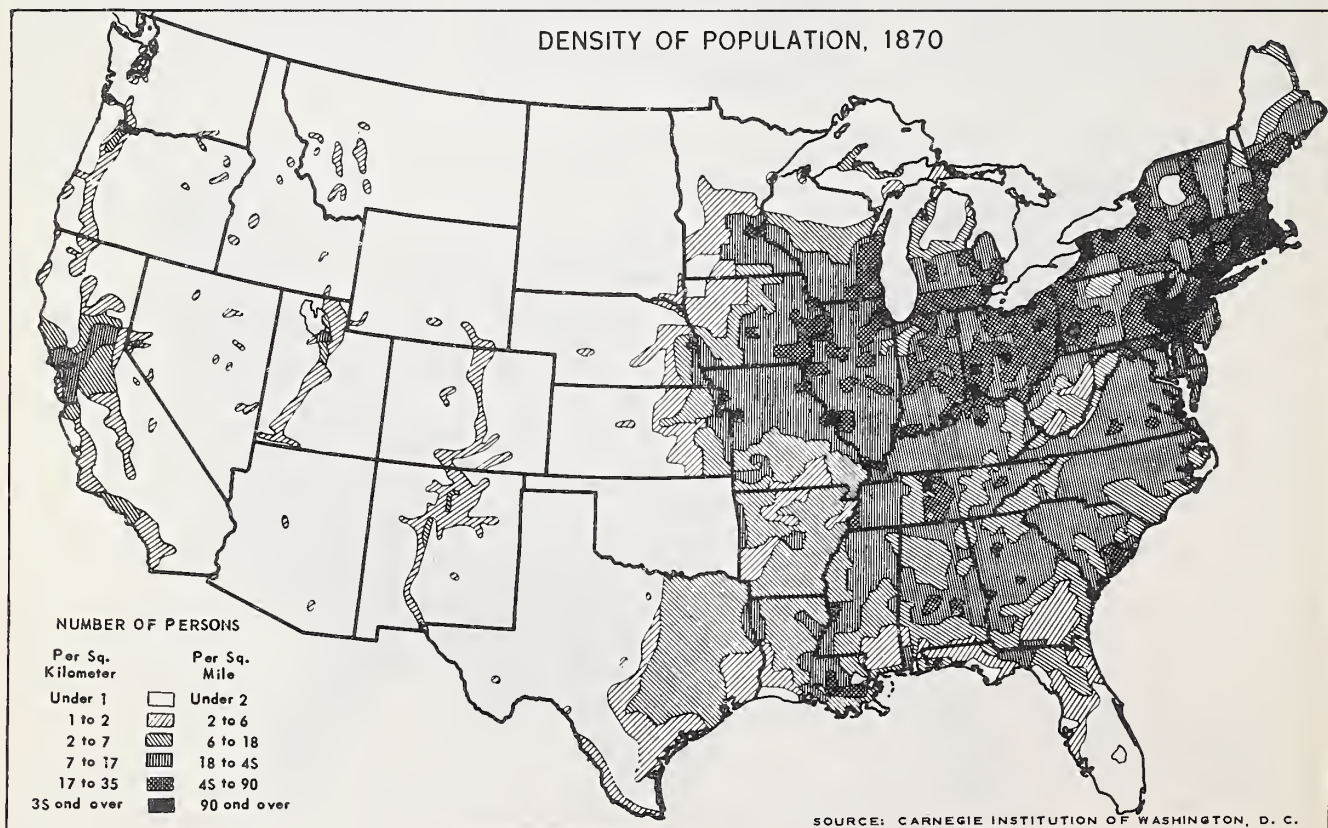


### *Settlement Patterns Also Affect Distribution of Farms*

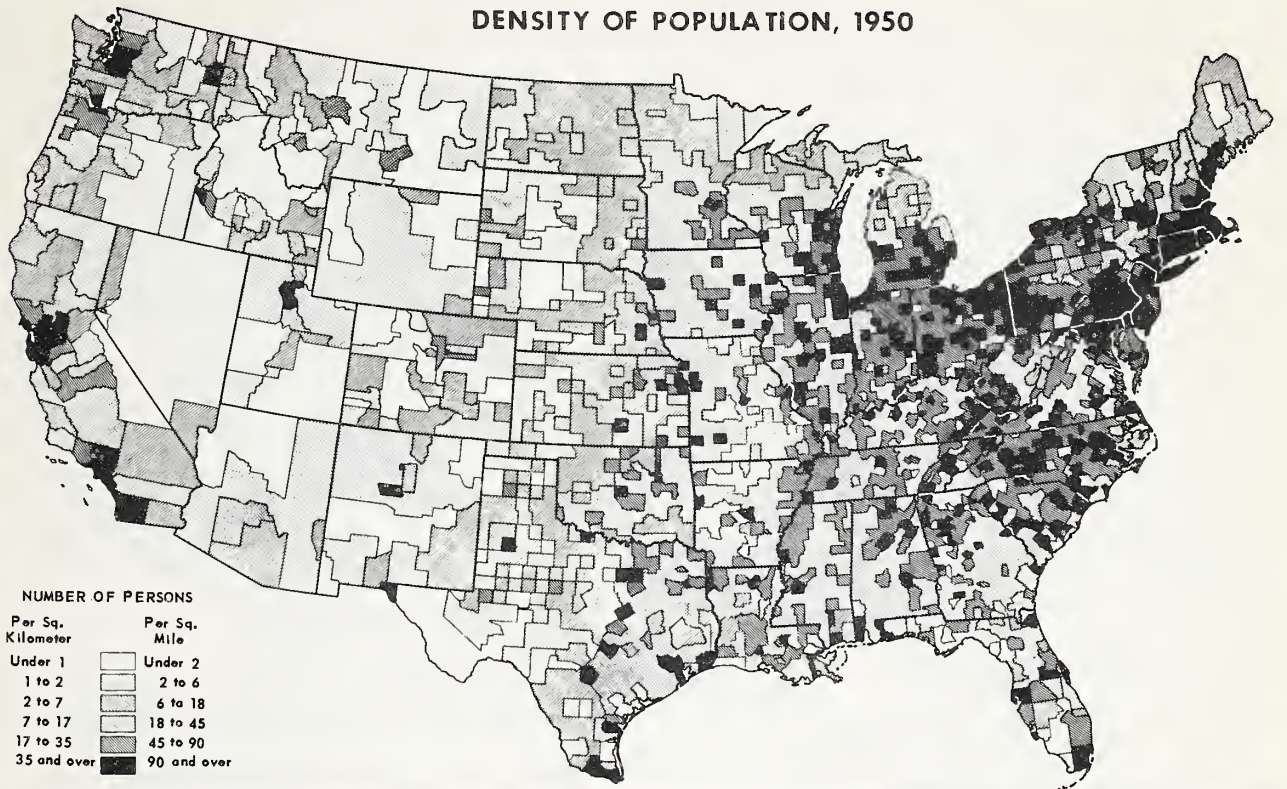
The location of farm families in the United States is also partly explained by the time of settlement, the location of the early colonies, and the rate at which settlement moved westward across the country. The maps on these pages show that the population was concentrated east of the Appalachian Mountains in 1790, three centuries after the discovery of America by Christopher Columbus, and that the population continued to expand westward.

Later there was considerable settlement around the Gulf of Mexico, some of which took place under French and Spanish rule, and in midcontinent along the Ohio and Mississippi Rivers. By 1870, settlement covered the eastern half of the country and a strip along the Pacific coast, with scattered settlements in the western mountainous areas of the country. Irrigation farming was being developed in a number of localities, particularly in the Great Salt Lake region.

The west coast was fully settled by 1920 and this has been one of the areas



## DENSITY OF POPULATION, 1950



## FIFTY LARGEST CITIES IN THE UNITED STATES (Over 200,000 Population in 1950)



BASED ON 1950 CENSUS OF AGRICULTURE

AMS 1388-55 (1)



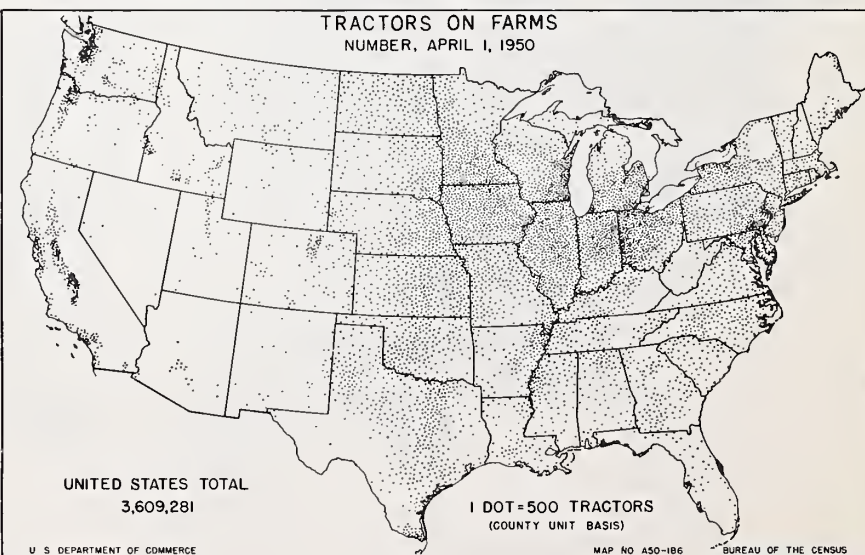
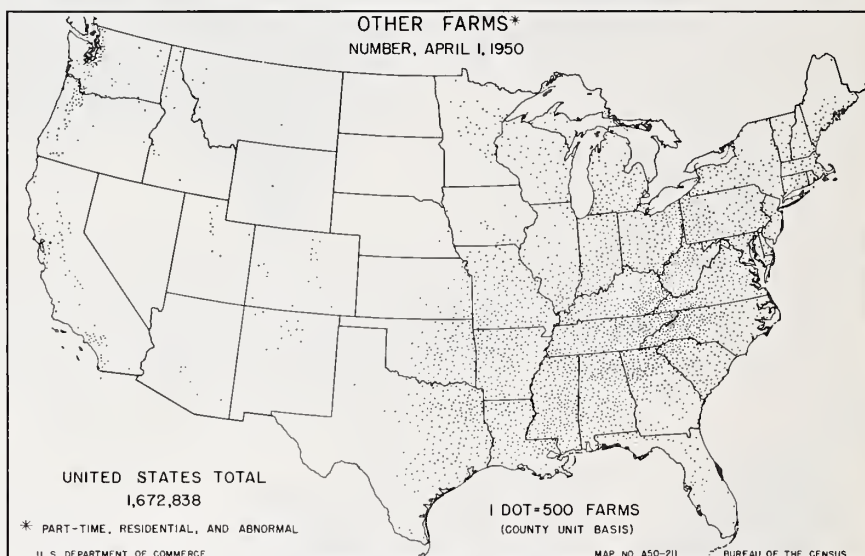
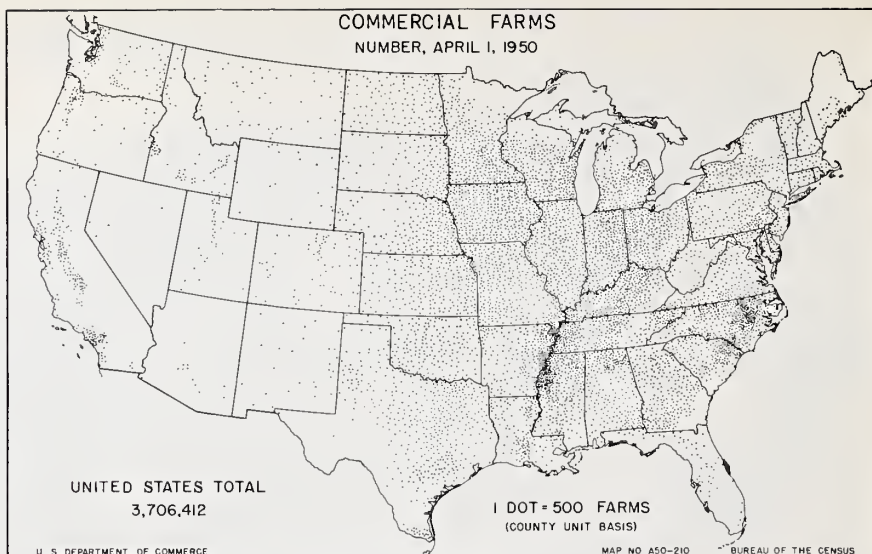
of greatest increase in population in the decades since then. The population density of the western mountainous region has also been increasing, but the population is still very sparse in considerable areas there.

By comparing the population maps presented here with the relief and climatic maps presented earlier, it will be seen that population density is greatest in the older settled areas, which also have ample rainfall, a long growing season, and a relatively low elevation.

A comparison of the farm-tractor distribution with the maps above illustrates the interrelation between climate, soils, time of settlement, and mechanization. Note the high degree of mechanization found in the North Central region. About four-fifths of the commercial farms in that region have tractors. In the South only 36 percent of the commercial farms had tractors in 1950. The operations on cotton and tobacco farms are not as readily mechanized as are operations on grain and forage farms. In irrigated areas, tractors are used for many intensive farming operations. Greater mechanization is accompanied by greater output per worker but also by higher accident rates. A nationwide sample survey in 1948 found the rate of farm accidents (per 1,000 farm residents) much lower in the relatively unmechanized South than in other regions.

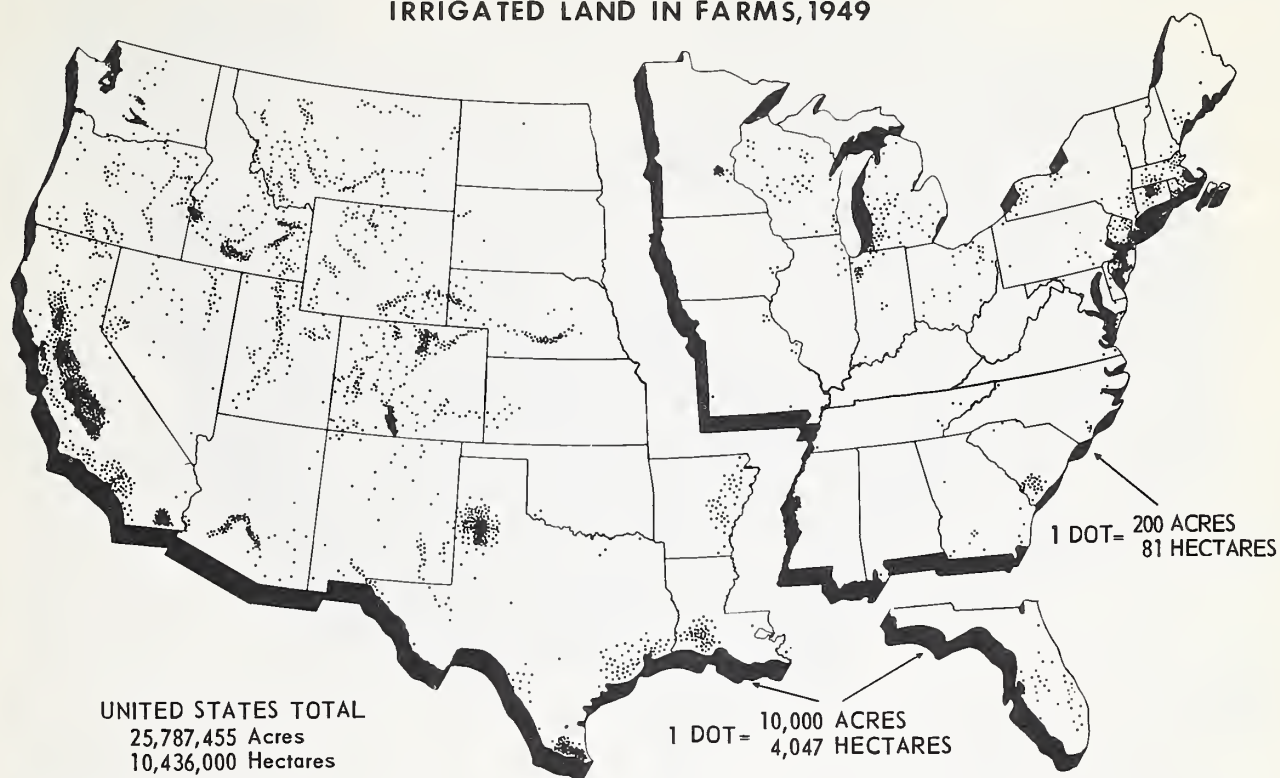
The development of cities also affects the distribution of farms, by providing markets for commercial farms and by affording a nonfarm source of income for part-time and residential farms. A nearby city market promotes intensive use of the land. Since over one-half of the country's population lives in the eastern one-sixth of the United States, there is a large movement of farm products into this region from other areas.

Specialized cultivation of small fruits and vegetables is most common in the vicinity of the large cities of the northern and eastern parts of the country and in the fertile, irrigated valleys of the Far West. Most highly perishable and bulky commodities, such as vegetables and fluid milk, are produced in close proximity to the great markets of the metropolitan centers. On the other hand, dry commodities that are easily stored





## IRRIGATED LAND IN FARMS, 1949



U.S. DEPARTMENT OF COMMERCE

MAP NO V50-072 \*

BUREAU OF THE CENSUS

and shipped, as corn, wheat, and cotton, are profitably produced by extensive, mechanized farming methods in regions remote from markets.

For many years, an increasing number of persons dependent partly or entirely upon nonfarm sources of income for their living have established residences in rural areas. Improvements in transportation and communication have made it possible for many industrial workers to live in the open country while enjoying advantages formerly available only in cities. Rural areas are preferred by many families as a place to bring up children. As farms are defined in the census, many primarily residential units are included in the count. Some of the operators of these farms are retired people. In the South, where most of the part-time and residential farms are found, their operators or other household members often work in textile mills, coal mines, or forest industries.

The so-called commercial farms include many small commercial operations, since even a farm with as little as \$250 in agricultural product sales was classed as commercial if this in-

come was the principal income of the family. These smallest commercial farms are most numerous in the Southeast.

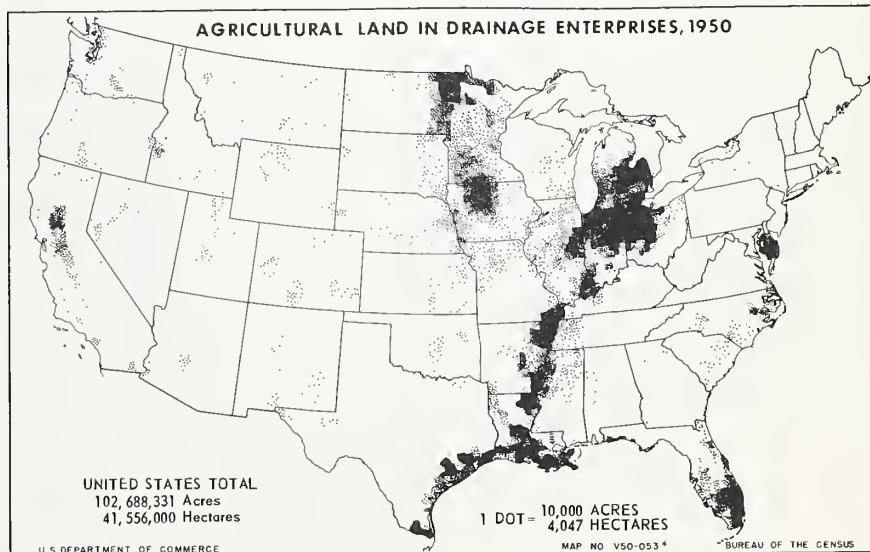
### *The Land Has Been Changed by Man's Use of It*

The land found by the original settlers and frontiersmen has been

greatly changed through the clearing of forests and prolonged cultivation, as well as by the building of irrigation and drainage facilities, and by the processes of erosion.

Irrigation has made possible the successful utilization of areas of arid and semiarid land of the West for agricultural purposes. In that region,

## AGRICULTURAL LAND IN DRAINAGE ENTERPRISES, 1950



U.S. DEPARTMENT OF COMMERCE

MAP NO V50-053 \*

BUREAU OF THE CENSUS

## GENERALIZED SOIL EROSION

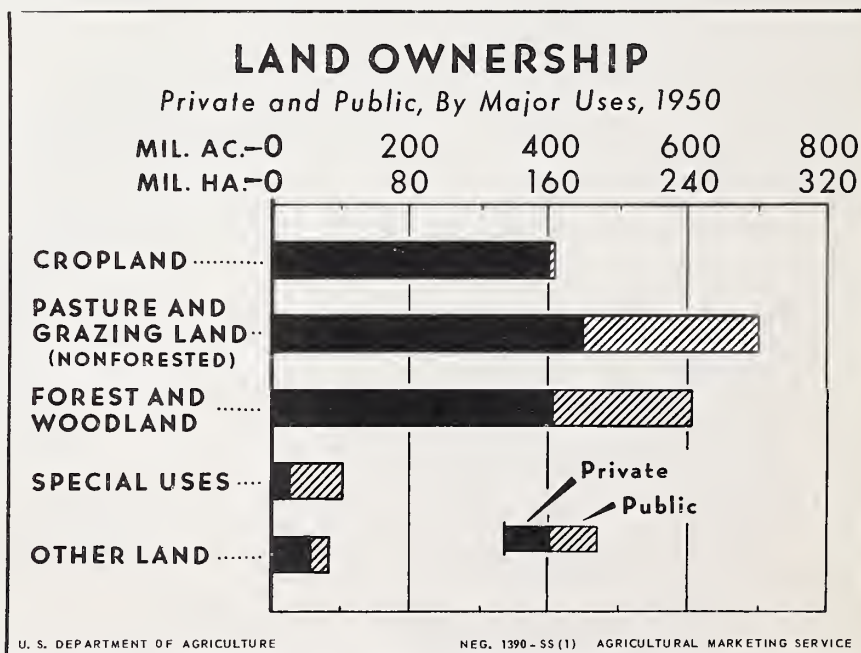


a high concentration of farms is found only where there is irrigation. To a smaller extent, irrigation is used in the East.

As the land in this country was being settled, thousands of acres were too wet to be of much agricultural value. Since that time much of this land has been drained and now is included as some of our most productive farmland. The drainage map shows only the land in organized drainage enterprises. There is much additional individual farm drainage.

Soil erosion also affects the distribution of the farm population. For in the areas where erosion is severe, much farmland has been abandoned and many farm families have moved out. The incomes of many of the farmers who have remained in these areas have been lower because of soil erosion. The general extent of erosion is shown in the accompanying map. In well over half of the Nation, soil erosion is moderate to severe.

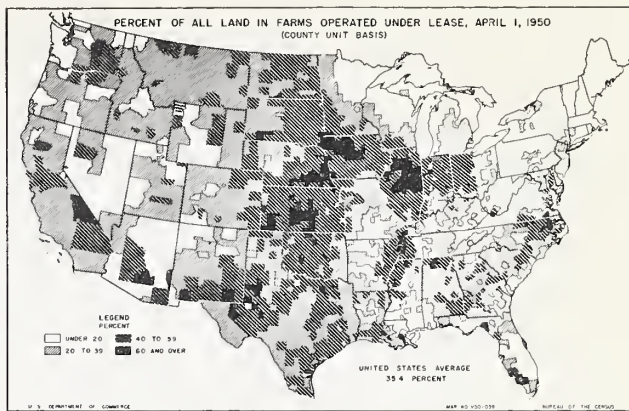
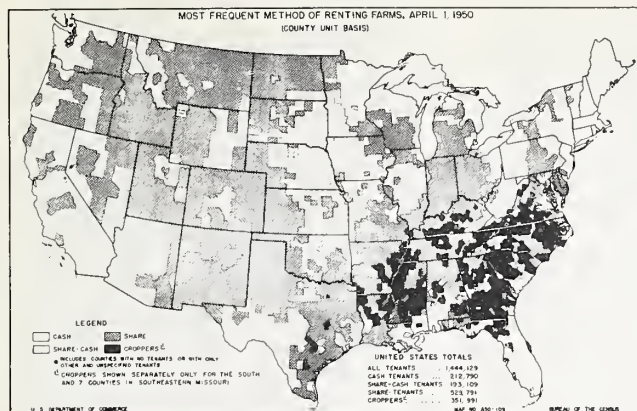
Soil erosion is of two types, water erosion and wind erosion. Water ero-



sion occurs in the eastern half of the country, wind erosion in the West. Largest areas of water erosion are in

the uplands of the South, and in mid-continent along the Ohio and Missouri Rivers. Wind erosion occurs in





scattered areas throughout the arid and semiarid West.

Much attention in recent years has been given to checking soil erosion, as will be seen in a later chapter on agricultural services.

### Private Ownership of Land Predominates

Over a fourth of all the land area of the United States is publicly owned—by Federal, State, or local government. Most of this is relatively low-valued forest and woodland, or nonforested grazing land in the West. Much of the public grazing land is suitable for grazing during a part of the year only. Some of it is leased to individual farmers and some is used in common under permits. Nearly all of the land suitable for crop production is privately owned, and for most of it, the owner is also the operator.

A map in the previous chapter showed the percentage of all farm operators who were tenants. On the map shown here, it will be seen that sharecroppers are the most common type of tenants in the southeastern part of the country (where the rate of farm tenancy is highest), that cash tenants are the most common in the northeastern and far western areas (where the rate of farm tenancy is lowest), and that share-cash and share tenants are the most common types of tenants in the other parts of the country. The densest farm population is found in the Southeast where there are many small sharecropper farms. In 1950, sharecropper farms averaged 41 acres compared with 198 acres for cash tenants, 252 acres for share-cash tenants, and 162 for share tenants. Excepting only the sharecropper farms, tenant farms

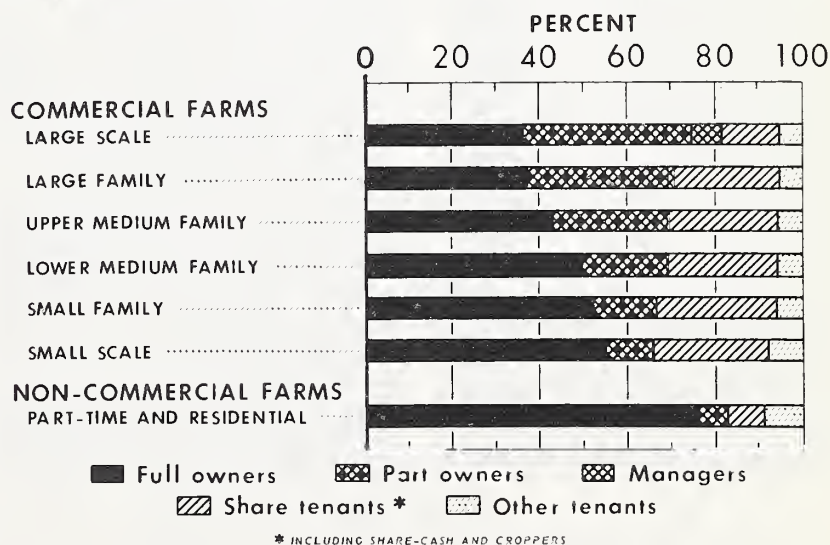
were larger than full-owner farms, which averaged 136 acres.

The next map shows the percentage of all farmland operated under lease. The highest proportion is found in the Middle West and the Great Plains, rather than in the South, where the proportion of all farm operators who are tenants is highest; for in the Middle West and Great Plains the farms of tenants are larger than those of owner operators, whereas the reverse is true in the South. The explanation for these differences in size of tenant farms by regions involves historic backgrounds too complicated to be discussed in the space available here.

When farms are classified accord-

ing to gross income from farm product sales, important differences are found between the farm tenure types. The most prevalent tenure type for the large-scale commercial farms is part ownership. Full ownership is the most prevalent tenure type for all other economic groups, and is highest among the part-time and residential farms. Tenancy is very low at both extremes: Among noncommercial farms and among the largest scale commercial farms. Between these extremes the rate of tenancy is nearly constant—around 30 percent of farms in all economic classes. Farms operated by hired managers are rather rare in all except the large-scale commercial farms.

### TENURE OF OPERATORS BY CLASS OF FARM, 1950



U. S. DEPARTMENT OF AGRICULTURE

NEG. 1150-54 (10) AGRICULTURAL MARKETING SERVICE



# Principal Farm Products

The wide range of climate in the United States makes possible a corresponding diversity in agricultural products. Practically everything is grown that can be produced in the Temperate Zone. The most important crops are corn, wheat, cotton, hay, oats, vegetables, tobacco, soybeans, potatoes, and fruits. Of lesser or more localized importance are crops such as barley, flaxseed, rice, sorghums, peanuts, sugar beets, and dry beans. The main livestock products are beef, pork, milk, poultry, eggs, and wool. The principal fruits are oranges, apples, grapes, grapefruit, peaches, strawberries, cherries, and pears. The major tree nuts are English walnuts, pecans, and almonds. Nursery greenhouse products, such as flowers, plants, and mushrooms, are also important in some localities.

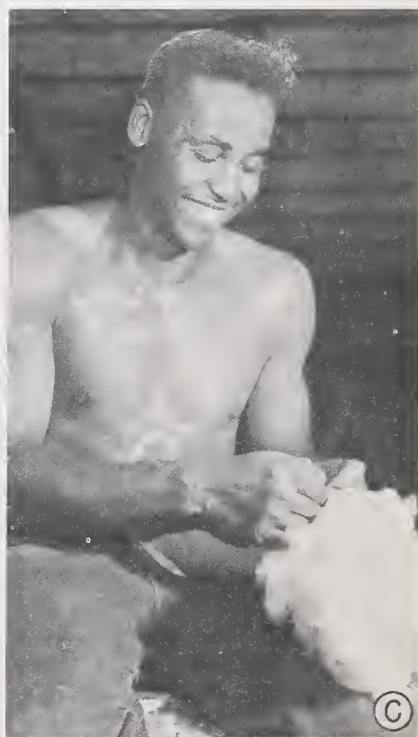
Generally speaking, the greatest

diversity of farm products is found in the eastern, southern, and central parts of the country, where there is ample rainfall and a long-to-medium growing season.

The center of corn production lies in the upper Middle West (North Central region). Wheat is concentrated further west and south in the Great Plains States and in the Pacific Northwest. Cotton is grown in the South and Southwest, where the growing season is longest; and vegetables are grown all across the country, but especially along the Gulf and Atlantic seaboard and in the irrigated western valleys. Tobacco is produced mainly in the northern part of the Southeastern States.

There are clear relationships between the dominant type of farm product and the rainfall, length of growing season, time of settlement, terrain, and distance to markets. Milk

for fluid distribution as whole milk, because it is highly perishable and bulky, tends to be produced near where it is consumed. Many dairy farms are located just outside the great metropolitan areas. Concentrated dairy products such as cream, butter, and cheese are produced most profitably on the less costly land farther from markets. Vegetables for fresh consumption, which are also perishable and bulky, are produced commercially in the vicinity of the great population centers. They are also produced in far removed areas of favorable soil and climatic conditions, especially to supply the demand for out-of-season vegetables. Wheat, corn, and cotton can be produced most profitably on less costly lands far from the large cities. These latter products, as is also true of most livestock that can be shipped alive, are commonly produced by extensive farming methods, whereas milk and vegetables are most often produced by intensive farming.



A wide variety of agricultural products.

A. A Maryland farmer butchering a hog. Other important types of meat are beef, mutton, and poultry. B. A farmer of the Middle West unloads corn. Other grains produced in quantity are wheat, barley, rye, and oats. C. A Mississippi Negro examines a sample of cotton taken from the bale on which he is sitting. Hot day, isn't it?

The chart below shows the planting and harvesting periods of the major crops. The dot maps on the following pages show the areas of concentration of these crops and of other farm products.

Farmers reported in the Census of Agriculture the amount of their sales of farm products in 1949. (See map.) The greatest value concentration is shown in the upper Mississippi Basin, along the upper Atlantic seaboard, and in the irrigated valleys of the central and southern Pacific coast.

Speaking more generally, these values were centered in the eastern half of the country, although the density of value is greater in the intensively farmed, irrigated valleys of the West than anywhere else in the country.

The Agricultural Marketing Service estimated that farmers sold about \$30 billion worth of products in 1954.

### Field Crops

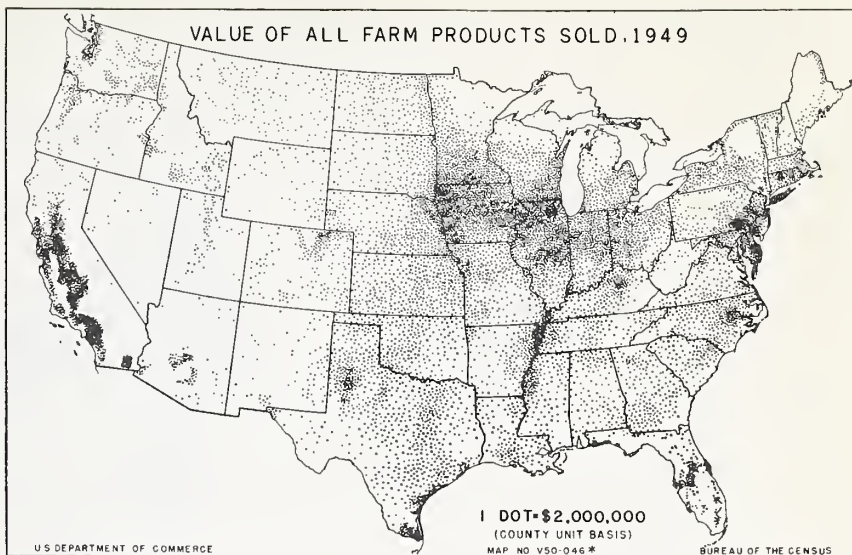
Corn production is largely concentrated in the northern and central parts of the Mississippi Basin; however, the corn acreage extends throughout the eastern half of the country, except for the most northern portions of States bordering on Canada, where the season is too short for corn to ripen.

More than two-fifths of all the corn that is harvested is fed to hogs, and about the same amount to cattle, sheep, work animals, and poultry, and used for other farm purposes. Nearly one-tenth of the crop is used industrially for milling or dry processing, wet milling or corn refining, and for the manufacture of breakfast cereals, beverages, alcohol, and acetone. The remainder of the crop goes for export and other uses. In several recent years exports have exceeded 100 million bushels (over 2.5 million metric tons).

Hogs are most numerous in the same area where the main corn crop is grown, as is shown in a later map.

The production of oats and soybeans is also largely concentrated in the main corn country. Soybeans are used mostly in the manufacture of oil; oats and soybean meal are used largely for feed for livestock and poultry.

Acreage in soybeans for all purposes more than doubled between

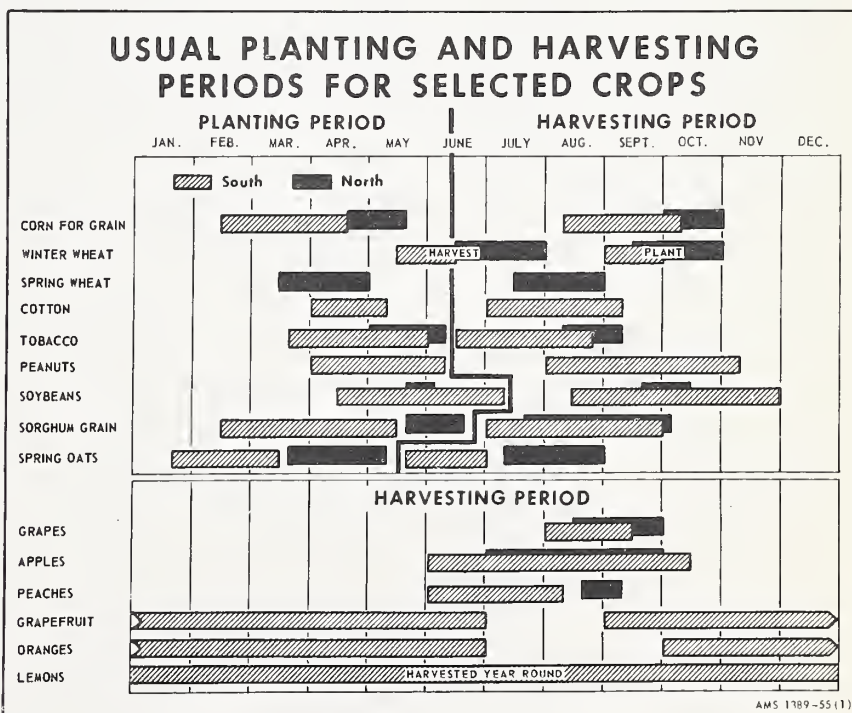


1934 and 1944, then remained at 12 to 16 million acres annually. But in 1954 it increased to more than 19 million acres (over 7 million hectares).

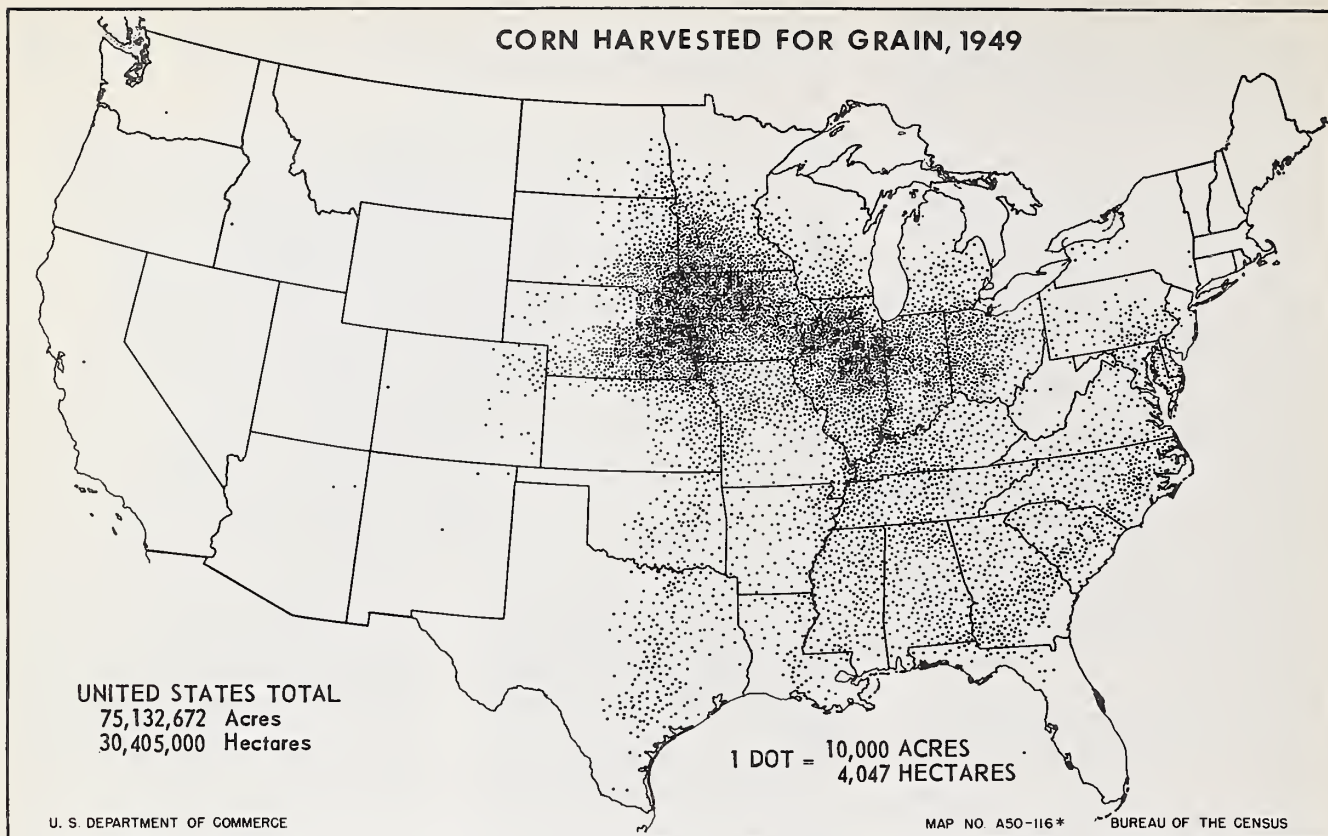
More than a billion bushels of wheat have been produced annually in 9 of the last 11 years (over 27 million metric tons). About three-fourths of the wheat acreage is in the Great Plains and in the Pacific Northwest, where rainfall is relatively

low. Wheat is also grown in the Corn Belt and Eastern States, where the yield per acre may be higher than in the major wheat regions. However, wheat is less important in these areas than such competing crops as corn, cotton, tobacco, and dairy products.

Practically all of the wheat grown in the southern and central Great Plains and farther east is of the winter type, which is sown in the fall. The spring type, sown in the spring,







is produced in the northern Great Plains. Both types are grown in the Northwest.

Wheat production is highly mechanized, especially in the Plains and in the Northwest, where the greatest volume is produced. Through the use of machinery, wheat growers can sow and harvest large acreages with a relatively small labor input.

In many years, wheat is our largest single agricultural export.

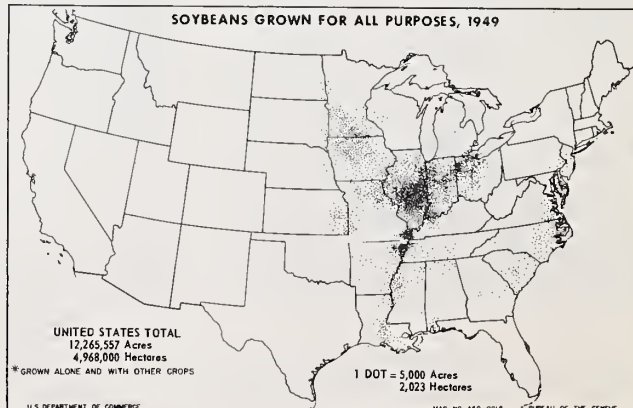
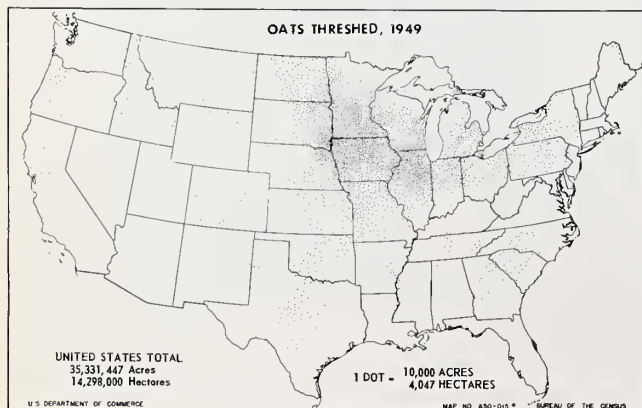
The rye and barley acreage was

formerly concentrated largely in the Dakotas and Minnesota, in the spring-wheat-producing areas. In recent years, however, barley growing has moved westward, with California first in production in 1954. Smaller quantities of these grains are also produced farther to the south, down into the winter wheat areas.

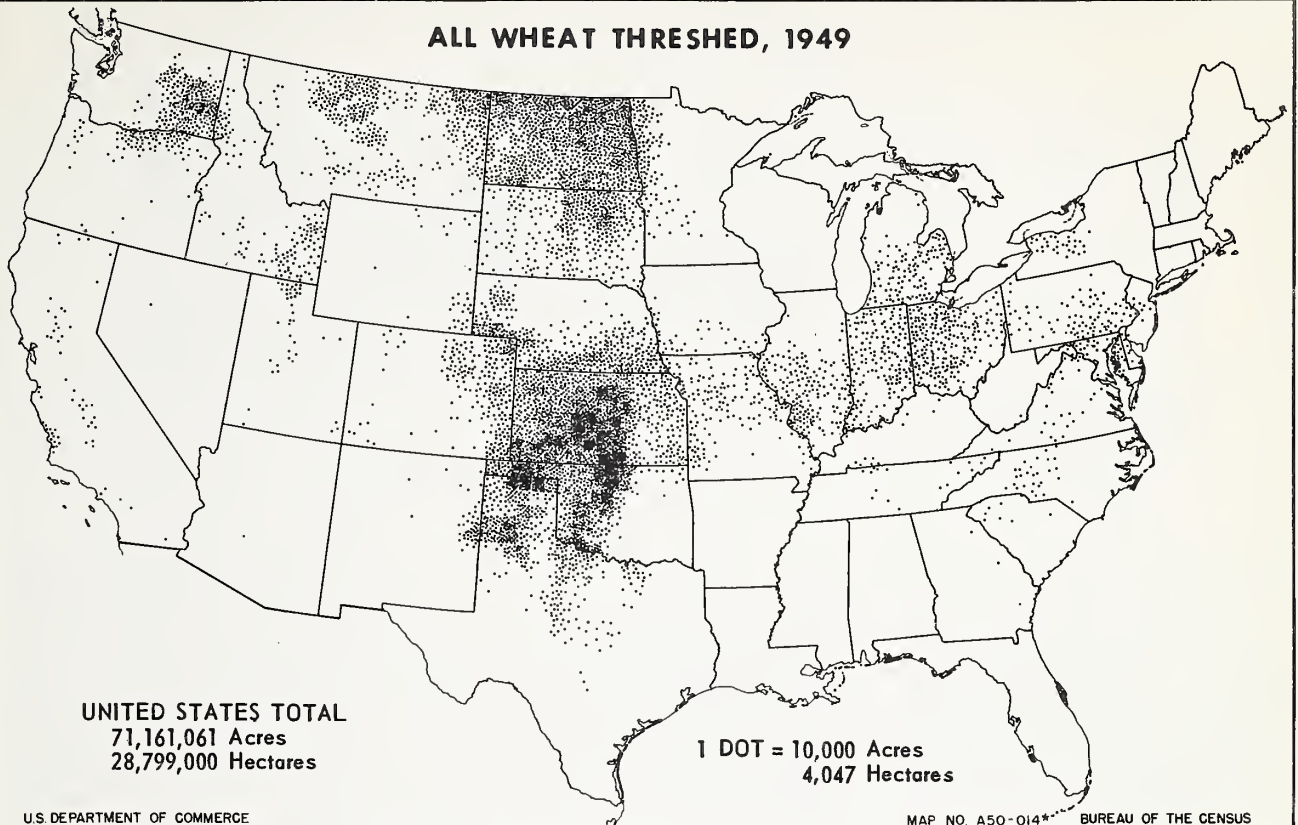
Flax production centers in western Minnesota and the Dakotas, the principal spring grain section.

Sorghums, because of drought-re-

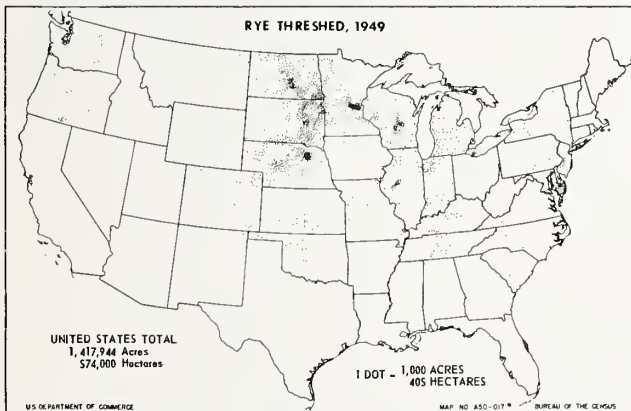
sisting qualities, can be used very effectively as a substitute for corn in areas that have a low and uncertain rainfall. In such areas, the yield of sorghum for grain usually exceeds that of corn. Production is concentrated in the central and southern Great Plains, where the growing season is relatively long. Sorghums are also grown successfully in the northern Great Plains, especially the forage varieties.



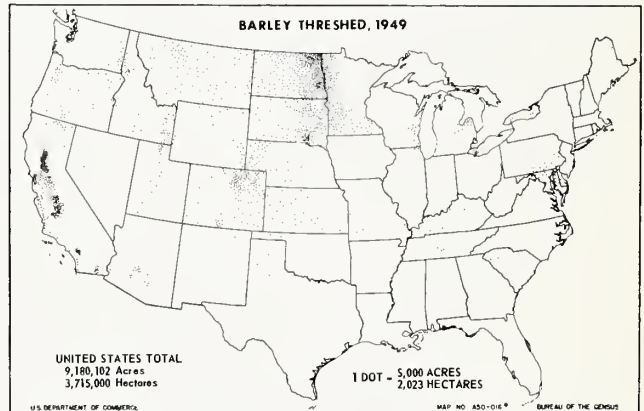
# ALL WHEAT THRESHED, 1949



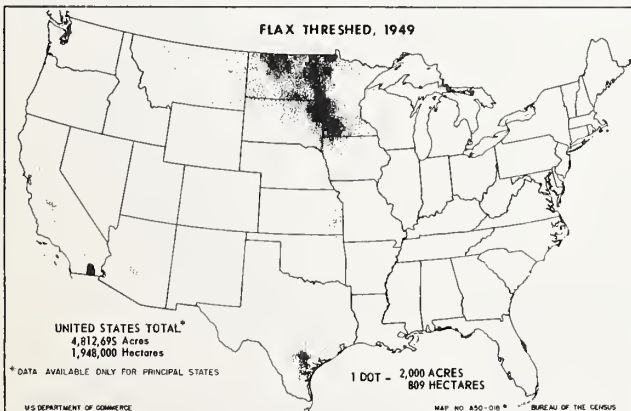
## RYE THRESHED, 1949



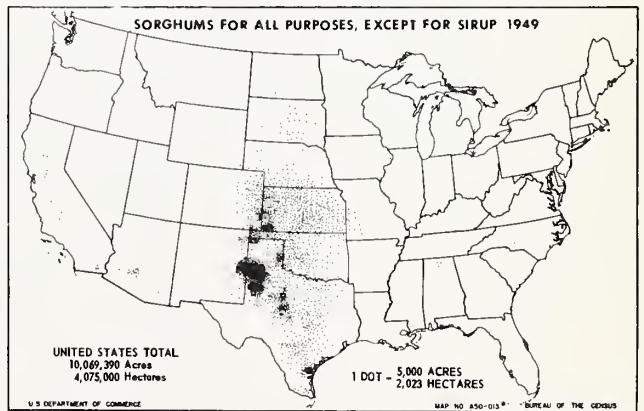
## BARLEY THRESHED, 1949



## FLAX THRESHED, 1949

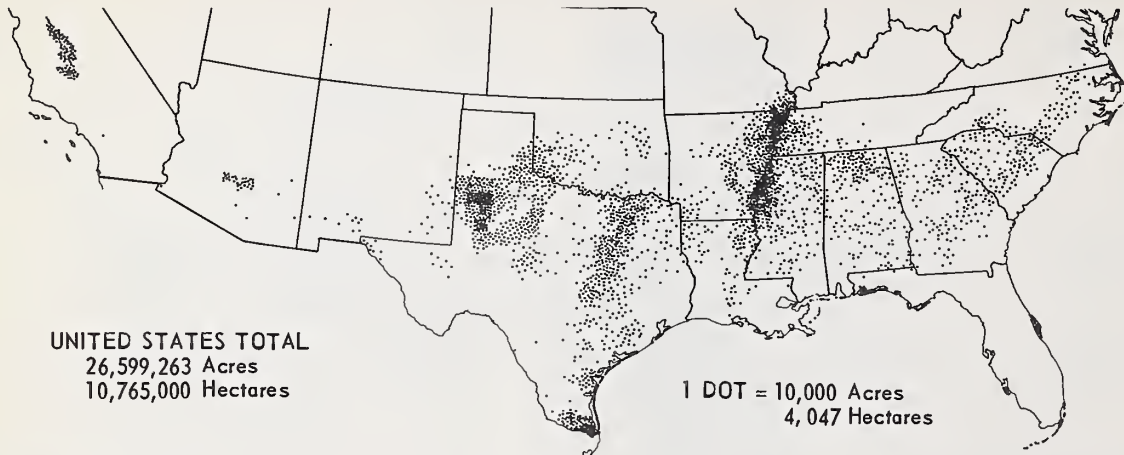


## SORGHUMS FOR ALL PURPOSES, EXCEPT FOR SIRUP 1949





## COTTON HARVESTED, 1949



U. S. DEPARTMENT OF COMMERCE

MAP NO. A50-019\* BUREAU OF THE CENSUS

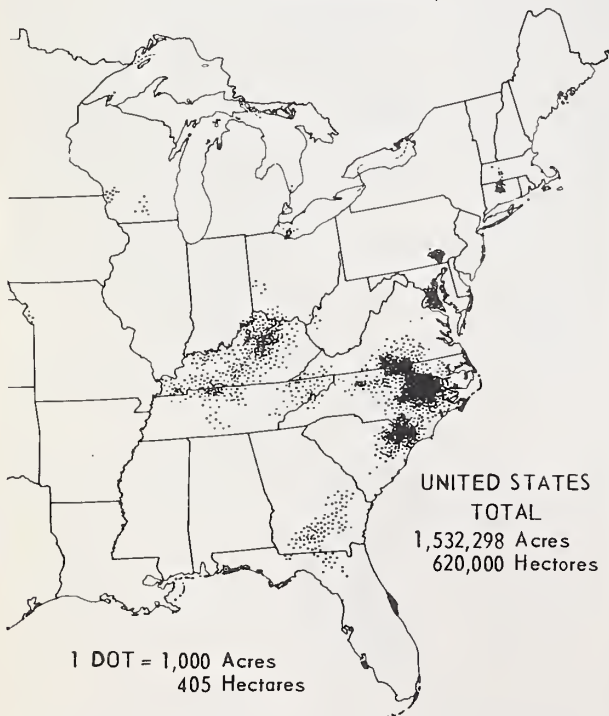
In 1954, 13.6 million bales of cotton were harvested (about 3 million metric tons)—a crop slightly above the average for the previous ten years. All of the cotton is grown in the southern parts of the country where the growing season is longest. Most of the cotton is still grown without irri-

gation, but in recent years the amount grown on irrigated land in the southwestern quarter of the country has increased markedly, with California the third largest producer in 1954.

Mechanization is not so far advanced in cotton production as it is in corn and wheat, but it has advanced

rapidly in recent years, especially in the newer cotton areas of the country—that is, in the irrigated areas of the Far West and in Texas and Oklahoma—and in the Mississippi Delta. It is least advanced in the older southeastern area. For more than 100 years, the center of cotton production

## TOBACCO HARVESTED, 1949

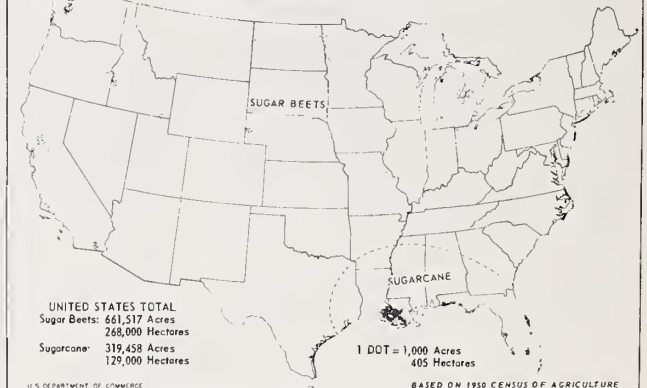


U. S. DEPARTMENT OF COMMERCE

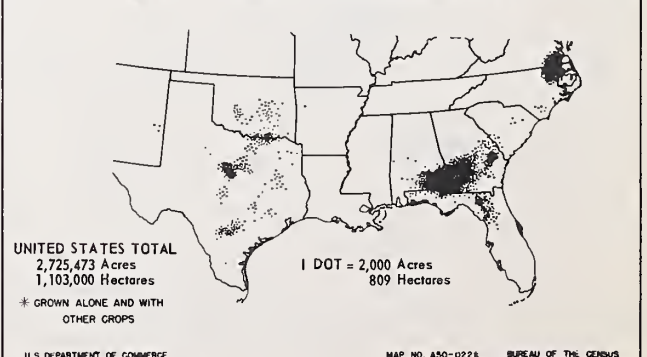
MAP NO. A50-020\*

BUREAU OF THE CENSUS

## SUGAR BEETS AND SUGARCANE, 1949



## PEANUTS GROWN FOR ALL PURPOSES, 1949\*



has been gradually shifting westward. For more than a century, cotton has been a major item of export.

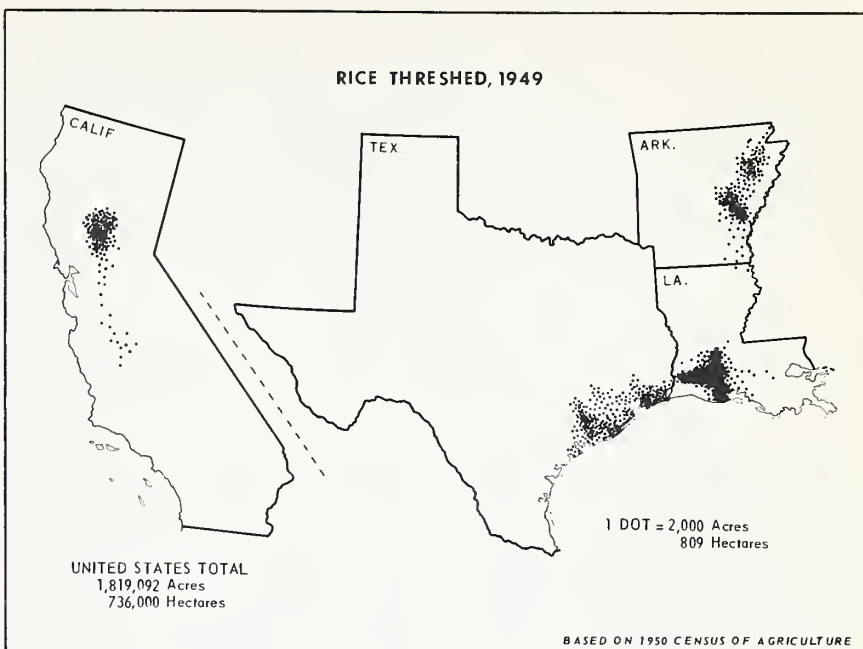
Tobacco is a highly specialized crop demanding a great deal of labor. It has the highest average value per acre of any field crop grown in the United States. It dominates the agricultural economy in some parts of the Southeast.

Tobacco was the earliest farm commodity exported from the Colonies, which later became the United States of America, and continues to be among the three most important farm commodities exported. Tobacco is the source for about \$2 billion in Federal and local taxes annually.

There are three main sources of sugar and sirup—sugar beets, sugarcane, and sorgo. In the extreme northeastern parts of the country a little maple sugar is produced.

Production of peanuts has increased in importance in Southern and Southwestern States during the past decade. The crop is used principally in the manufacture of edible products; however, large quantities have been crushed for oil and cake and meal, and some is fed to hogs.

The oil is largely used in the manufacture of edible products; the meal and cake are an important source of protein in mixed feeds. Peanuts

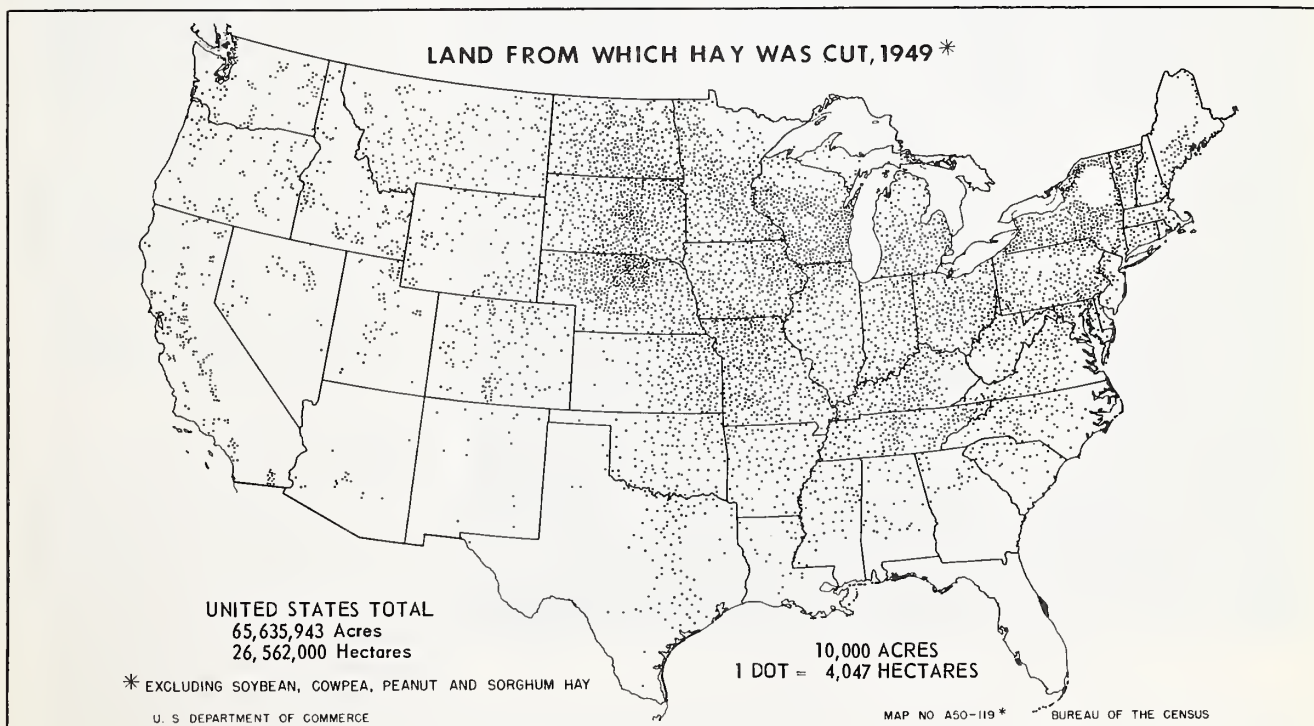


make a substantial contribution to cash farm income in the seven major peanut-producing States.

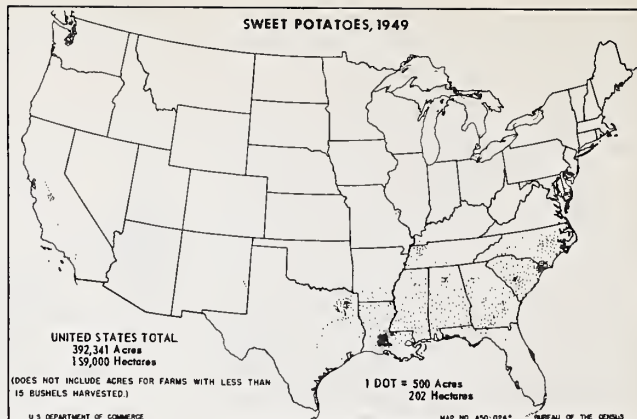
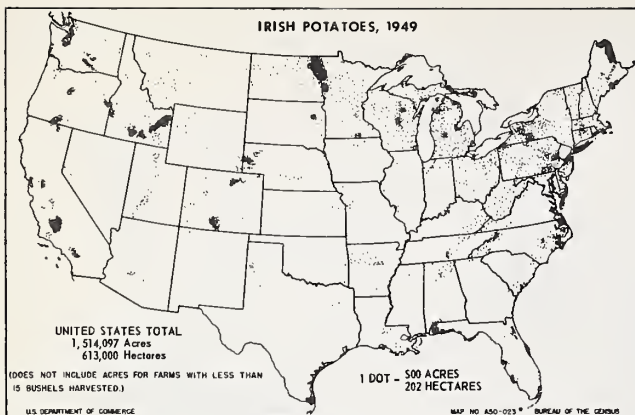
Rice production in this country occurs in southeast Arkansas, the Mississippi Delta, along the western gulf coast, and in the Sacramento Valley of California. The total production is relatively small, but some rice is now exported.

Hay is produced throughout the agricultural area, but production is most concentrated in the northern and eastern parts of the country where pastures are covered with snow in winter, and in California and other irrigated parts of the West.

Alfalfa is the popular hay in the irrigated areas, where it is an established part of the crop rotation. It







is also widely grown unirrigated in the North Central States. Unlike most other hay crops, which are usually cut only once or twice during the season, alfalfa makes a continuous growth from early spring until fall frost. It may be cut 6 or more times, depending on the length of the grow-

ing season, and is the highest yielding hay crop grown in this country. Clover and timothy are common in the northern and eastern parts of the country; lespedeza, in the middle latitudes from Missouri and Arkansas east to the Atlantic coast; and wild hay, in the northern Great Plains.

Other field crops that are important in limited localities include cowpeas and broomcorn in parts of the South, and dry field and seed beans in the North and West.

Potatoes are produced in each of the 48 States. They are grown commercially in scattered areas extending west from Aroostook County, Maine, to Kern County, Calif., and south from the Red River Valley of North Dakota and Minnesota to the southern tips of Texas and Florida. Production in Aroostook County, Maine, alone is greater than the production in any State except Maine itself.

In 1954 nearly one-half of the potato crop of the United States was produced in four leading potato-producing States: Maine, California, Idaho, and New York. In recent years production has become more concentrated in the hands of the larger commercial growers.

Sweetpotatoes are grown primarily in the Southern States, with areas of commercial production scattered. The heaviest concentration is found in Louisiana—the leading sweetpotato-producing State. A large proportion of this crop is consumed as food and feed on farms where grown.

### *Vegetable Crops*

Vegetable crops are grown commercially in practically every State, and are harvested somewhere in the United States during every month of the year. Vegetable farms range in size from a few acres to large operating units of several thousand acres. One or two acres of land in commercial vegetable production are often planted to 8 or 10 different kinds of



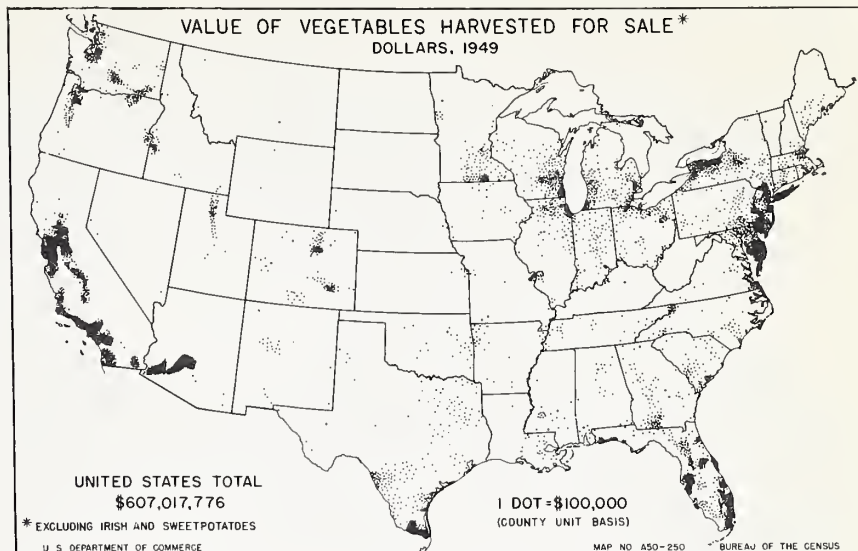
A city housewife chooses her vegetables.

Because of wide variations in climate and good transportation, many kinds are on sale throughout the year.

vegetables. Or one whole section of land (640 acres) may be planted entirely to one vegetable crop.

Vegetables are grown commercially near the great cities and in areas that are hundreds or thousands of miles away. The wide geographic distribution of vegetable production, coupled with an intricate transportation system, places fresh vegetables of all kinds and varieties in our city markets during all seasons of the year. In 1953, production of the principal commercial fresh vegetables amounted to 1.6 million tons during the winter, 2.4 million tons during the spring, 4.2 million tons during the summer, and 1.9 million tons during the fall (slightly less in metric tons). Vegetables are produced in Florida, Texas, and California in late fall, winter, and early spring for shipment to northern cities for consumption in fresh form.

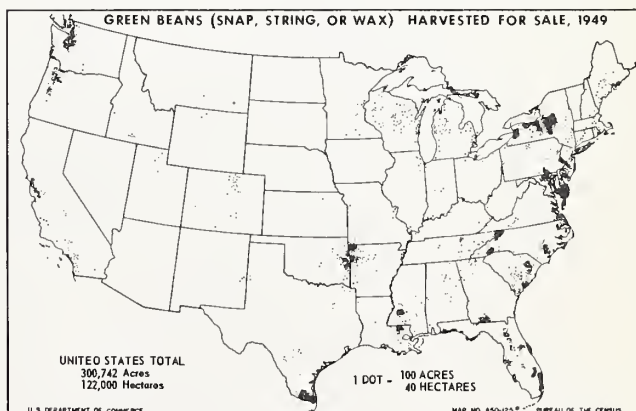
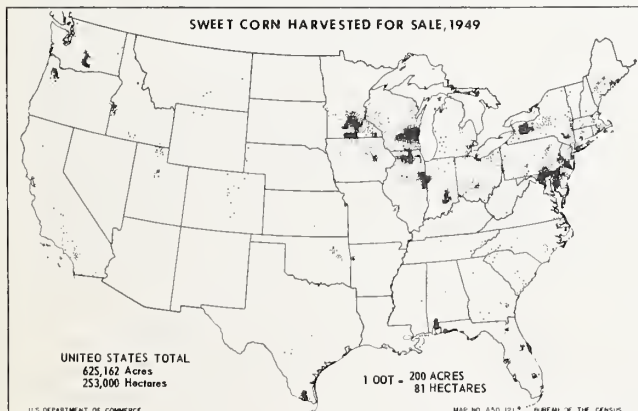
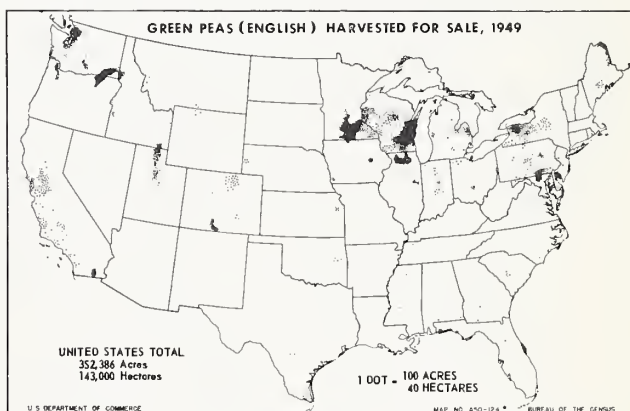
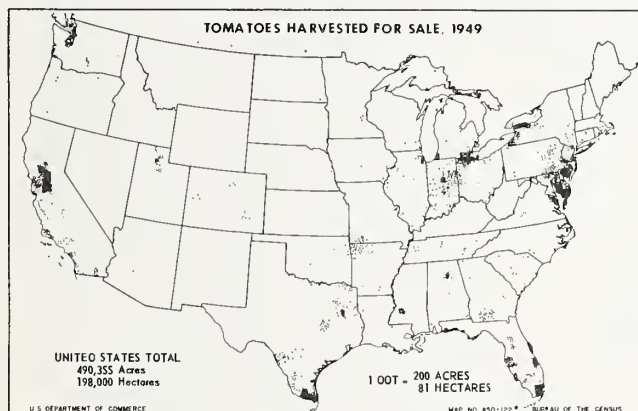
In addition to the fresh market production, 6.5 million tons of vegetable crops were produced in 1953 for commercial processing—canning and freezing. Between 1942 and 1953 the commercial freezing of vegetables has



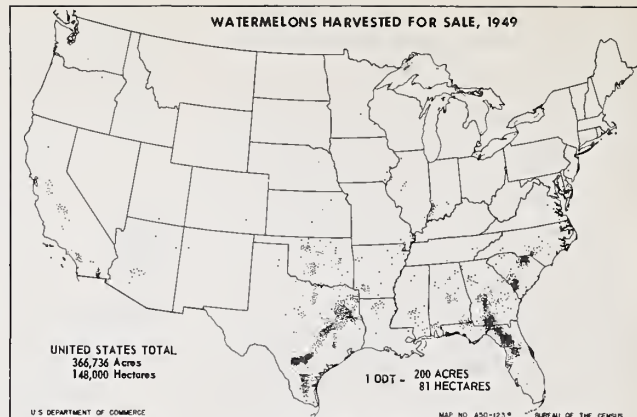
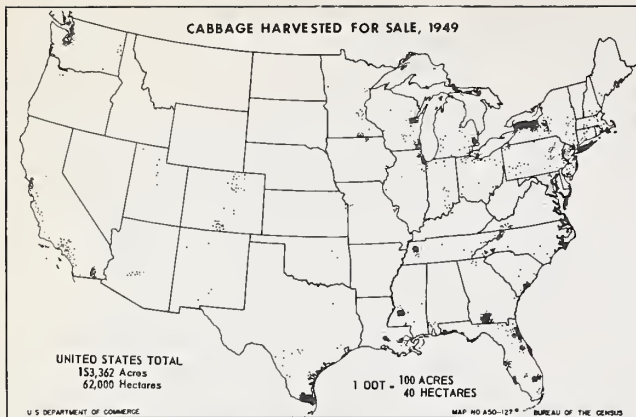
increased sevenfold. In 1953 California was the leading State in total tonnage of vegetable crops produced, Florida ranked second, New York third, and Texas fourth.

The accompanying dot maps show the localities in which some of the most common vegetables are grown. Great quantities of tomatoes are

used by commercial canneries. There is much commercial canning, too, of fresh beans, sweet corn, and green peas, while most of the cabbage is sold fresh. Watermelons are always sold fresh. Chilled watermelon on a hot summer afternoon is a popular delicacy among all elements of the population.







In addition to the vegetables grown for sale, the great majority of farms grow some vegetables for home use. About 70 percent of all farms had home gardens in 1950.

### Fruits and Nuts

Most of the acreage in fruit orchards, vineyards, and nut trees lies

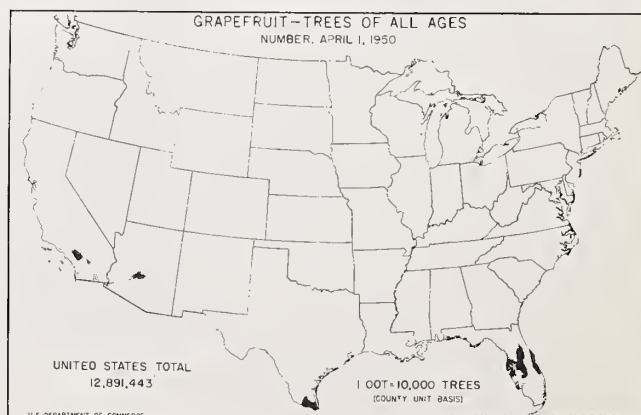
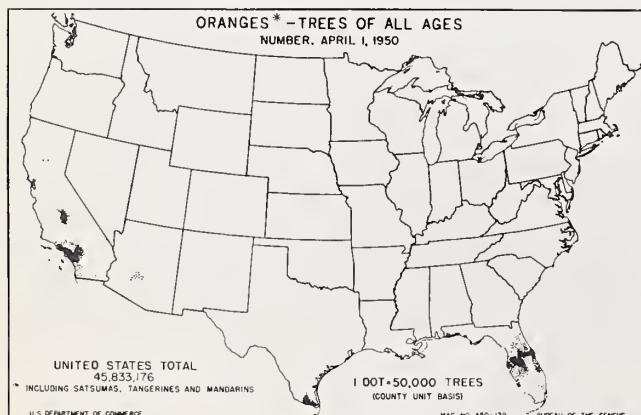
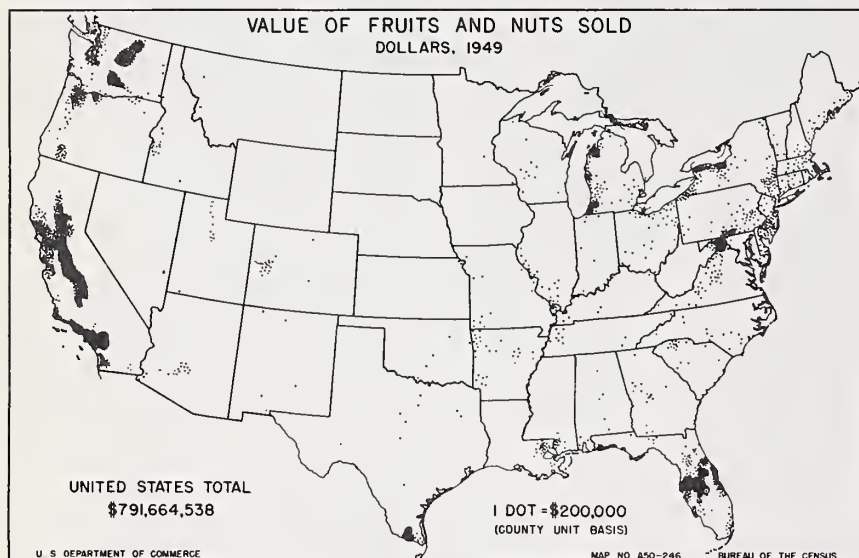
along the outer borders of the country. Most citrus production is in Florida and California, but considerable quantities are also grown in Arizona and the southern tip of Texas.

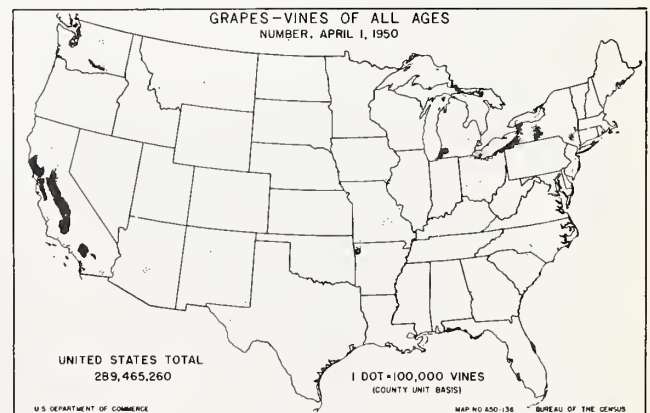
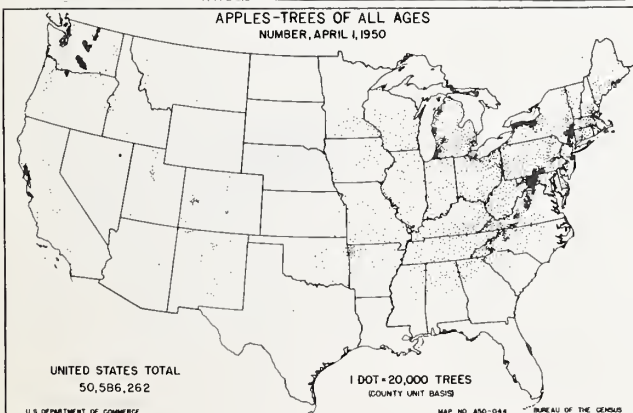
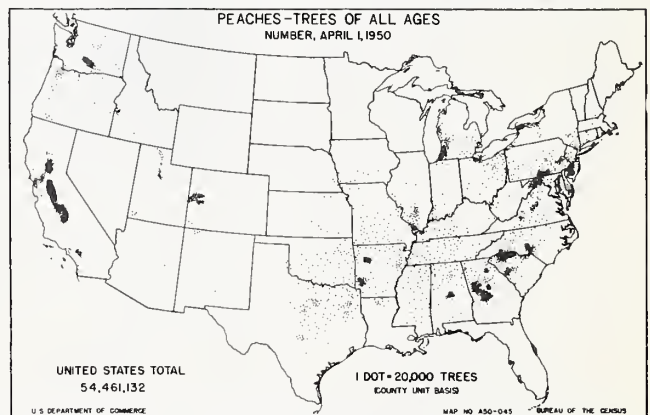
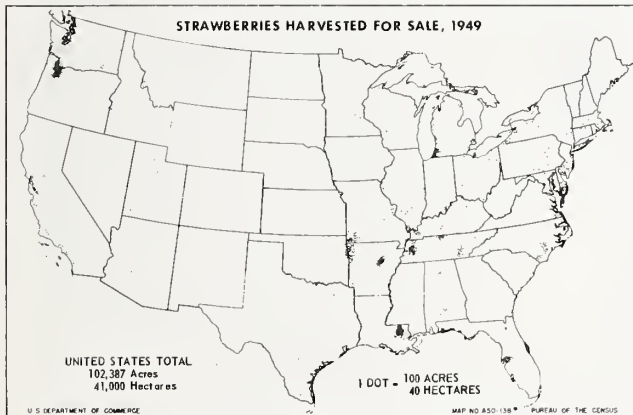
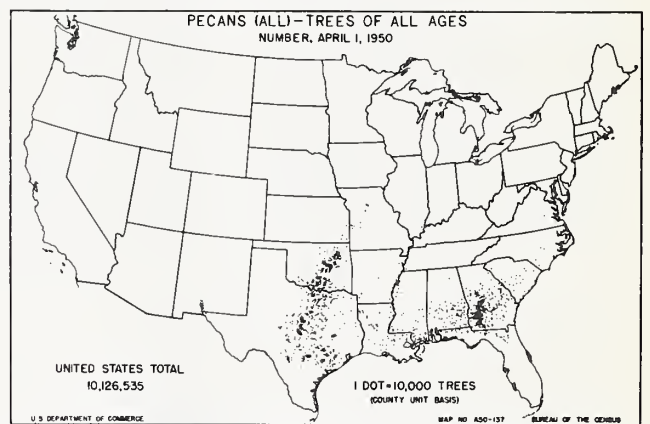
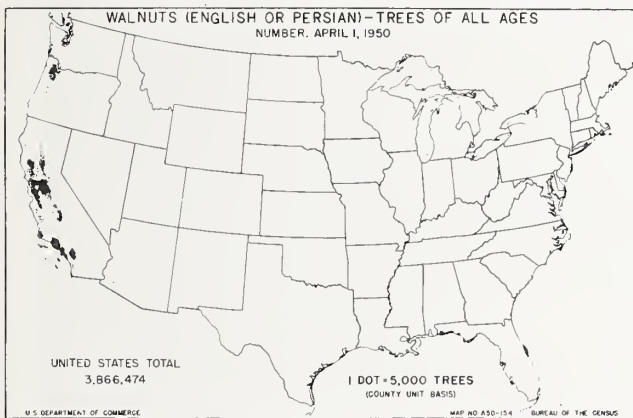
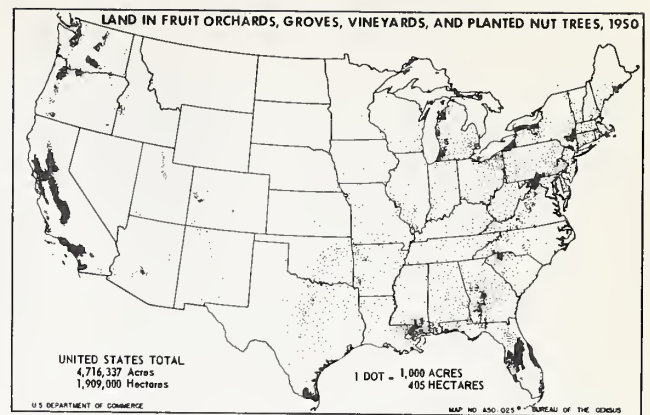
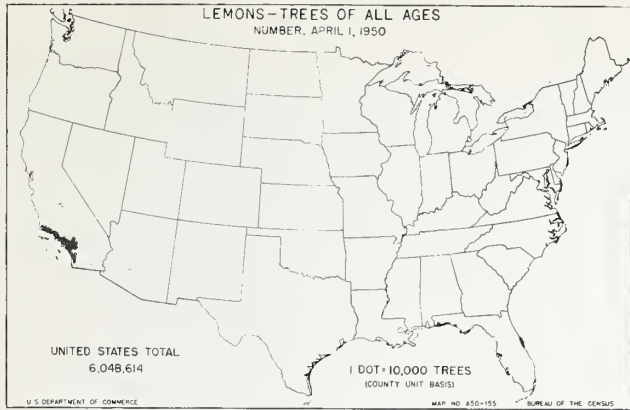
Deciduous fruits and nuts are concentrated in the valleys of the three Pacific Coast States, in areas near the

Great Lakes, and in the Atlantic and Gulf Coast States. Scattered inland sections are of local importance. California produces about half the total tonnage of fruits and nuts of the United States, including practically all of the dried fruits.

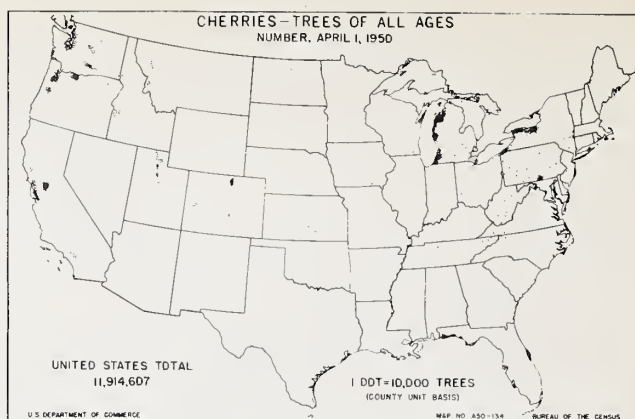
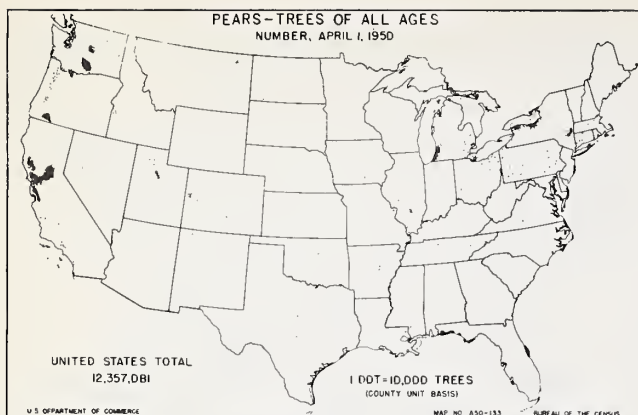
The following maps show the location of some of the more important fruits and nuts: Oranges, apples, grapes, grapefruit, tree nuts, strawberries, peaches, cherries, and pears. Besides those illustrated, almonds, figs, prunes, plums, and apricots are also grown, primarily in California. Fresh fruits are popular items of the national diet and are shipped widely. Refrigerated railroad cars and trucks are common sights in all parts of the country. Relatively large quantities of some fruits are canned and, especially since World War II, a large part of the orange production has been used in frozen-juice concentrate.

Much of the harvesting of these crops is still done by hand. The demand for seasonal labor is great, because many fruits must be harvested within very short periods if they are to be marketed successfully.









Miscellaneous agricultural products are honey, which is produced on a small percentage of farms in all parts of the country; cranberries, chiefly grown in New Jersey and Massachusetts on the east coast; and horticultural specialties, which include propagated mushrooms, bulbs and seed grown in the open, and plants and

flowers and vegetables grown under glass.

### Livestock

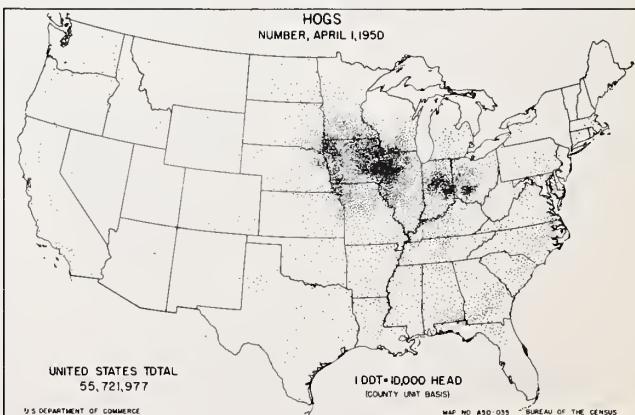
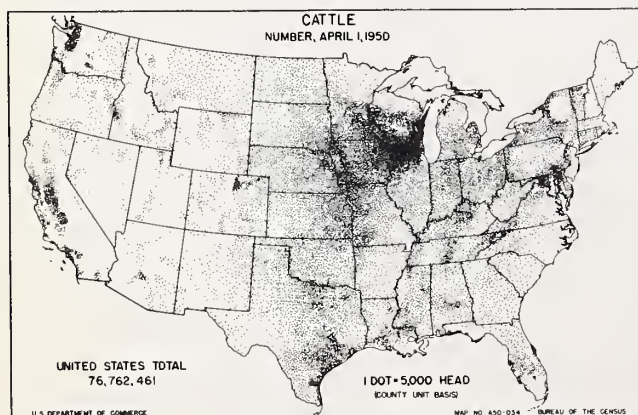
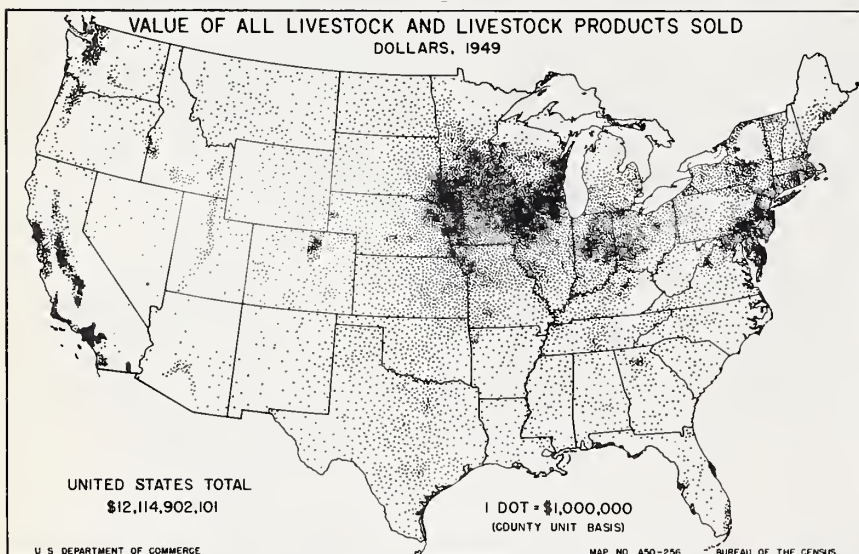
Livestock production is concentrated in the Middle West, and in smaller areas in the upper Middle Atlantic States, and in the valleys of the Far West. The livestock indus-

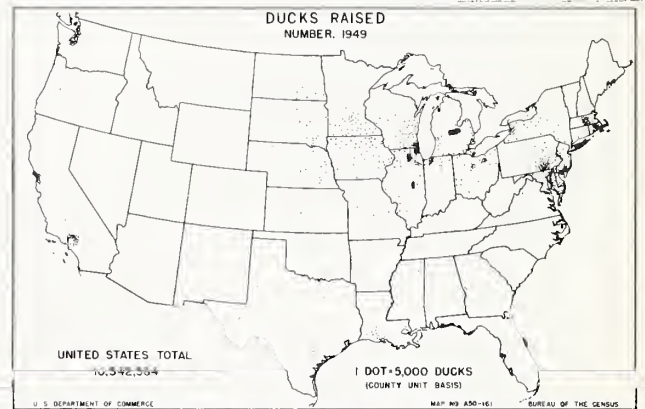
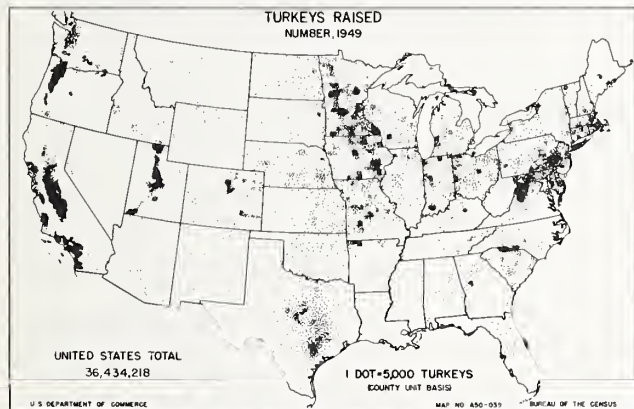
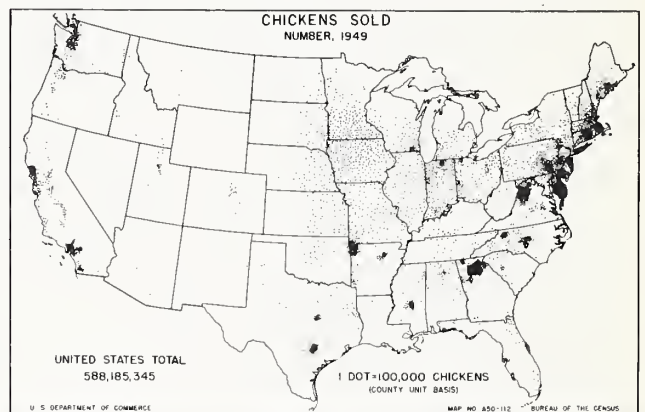
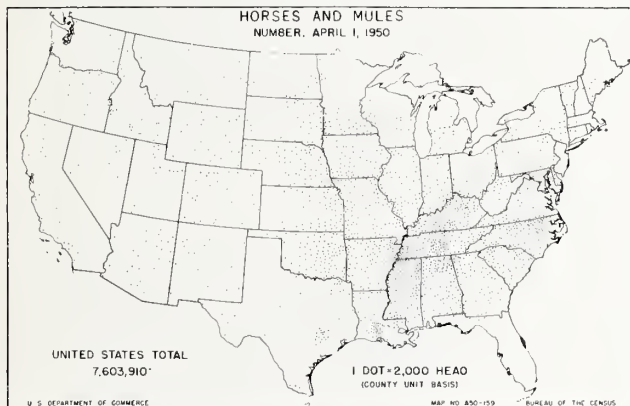
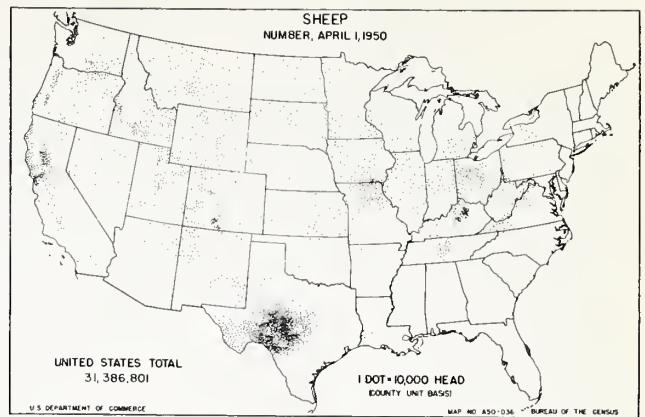
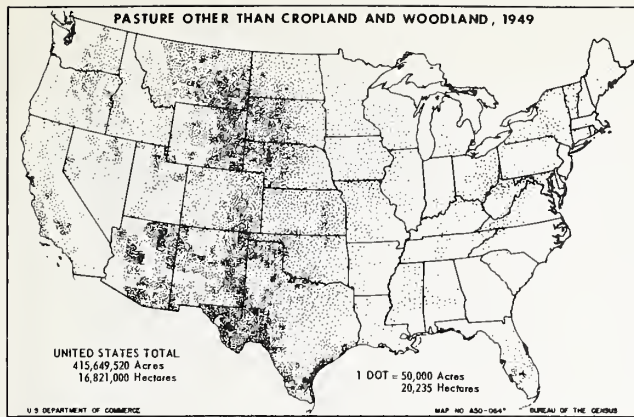
try of the Middle West centers around the local production of corn and other feeds; in the upper Middle Atlantic States, around the great metropolitan markets for milk and eggs; and in the valleys of the Far West, around the availability of alfalfa and sugar-beet feeds and the expanding metropolitan centers of that area.

As seen in the dot maps below, cattle and hogs are most numerous in the Middle West. This is by far the biggest hog-producing area. Great numbers of cattle are also raised throughout the Great Plains, in the Eastern States, and in the valleys of the Far West.

Although cattle production is one of the main agricultural enterprises of the western mountain areas, the cattle density is low there because the sparseness of vegetation means that a considerable area of land is necessary to support each head of cattle.

The bulk of the unforested pasture land (called range) lies in the Rocky Mountains and in the western parts of the Great Plains, where the rainfall is low. Despite sparse vegetation, this land provides much low-cost feed for range livestock.





In the country as a whole, only a seventh of the unforested pasture land is suited to crop farming. About one-third of it is publicly owned, and practically all of this is in the western mountain areas, including the Federal lands in grazing districts and lands in national forests.

Most of the cattle in the Northeast, around the Great Lakes, and in the Pacific Northwest are dairy animals, while most of those in the lower Middle West, the Great Plains, and the Intermountain States are beef animals. In the Southeast, dairy animals,

largely for family use, are more numerous than beef cattle, though in recent years the number of beef cattle in this region has increased.

Sheep are used for wool and for lamb and mutton meat. Goats are raised principally in Texas. Some types are used primarily for hair; others are used for either milk or meat, or both.

The butchering for home use of meat animals raised on farms contributes to the meat supply of farms in all parts of the country. Farm slaughter is greatest in the South,

where two-thirds of all farms reported some cattle, hogs, or sheep butchered in 1949.

The areas in which draft animals and other livestock are found are shown in the maps. The number of horses and mules has decreased greatly in recent years, as farm tractors have increased. Between 1945 and 1953 the number of horses and mules dropped from 11.9 million to 5.6 million, or more than half. During this period the number of farm tractors nearly doubled. The canning of horsemeat has become a sizable in-



dustry in recent years; the product is used especially as food for dogs and cats.

About 80 percent of all United States farms have poultry. Production of chickens is most concentrated in the North Atlantic and New England States, and in scattered localities in the South and Far West. Chickens are a common enterprise throughout the grain-livestock areas of the Middle West. The increasing demand for poultry meat has been met by expanding the production of commercial broilers, which increased from 34 million in 1934 to 986 million in 1953. There has also been an increase in total production of eggs, mainly through the increase in rate of egg laying per hen. The value of poultry and eggs sold in 1953 totaled nearly \$4 billion—almost 10 percent of gross farm income.

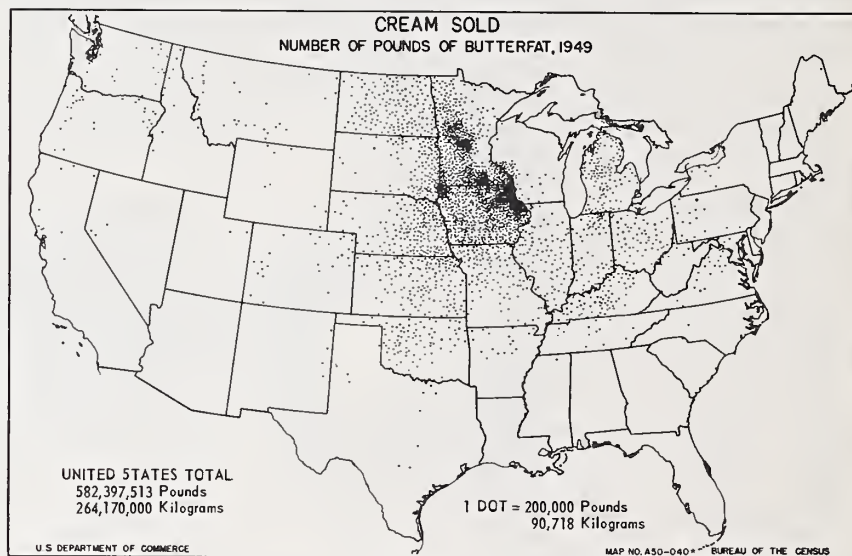
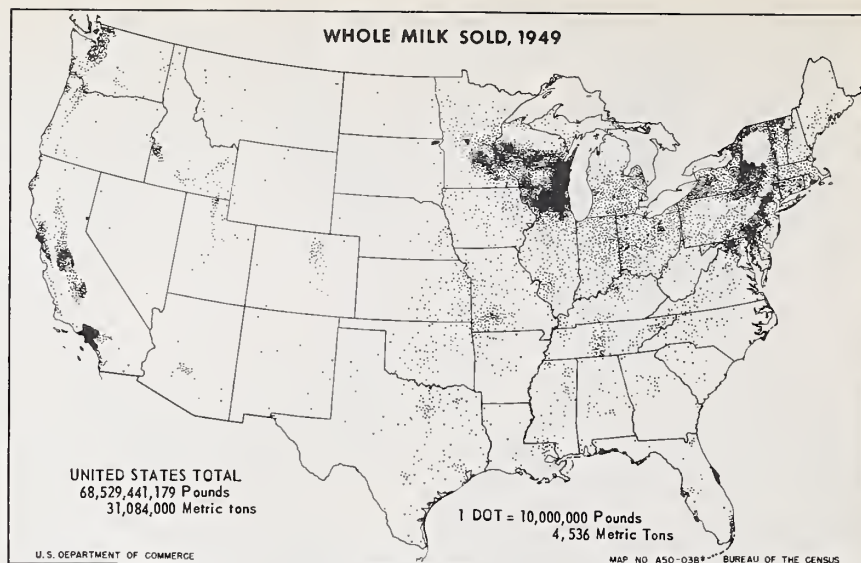
Turkey production has had a rapid growth, from about 22 million in 1934 to about 60 million in 1954. Improvements in turkey management practices, particularly in poult production, disease control, and feeding, are responsible for the economic production of poultry meat. Turkey dinners, formerly served mainly during the Thanksgiving and Christmas seasons, are now more or less usual through much of the year. Turkeys are produced in largest numbers in California, Minnesota, Virginia, Iowa, Texas, and Oregon (1953 data).

The production of ducks is centered in the northeastern fourth of the country, and in California.

### Dairying

In 1953 about 61 million tons of milk were produced in the United States (55 million metric tons). The greatest volume came from the upper Middle West and the area extending on east to the Atlantic seaboard. There is also a considerable concentration of milk production in the far Northwest and in the valleys of California. In every region, most farms reported at least one milk cow in the 1950 census.

Moreover, there is some opportunity for commercial dairying around practically every large city. The high perishability and great bulkiness of



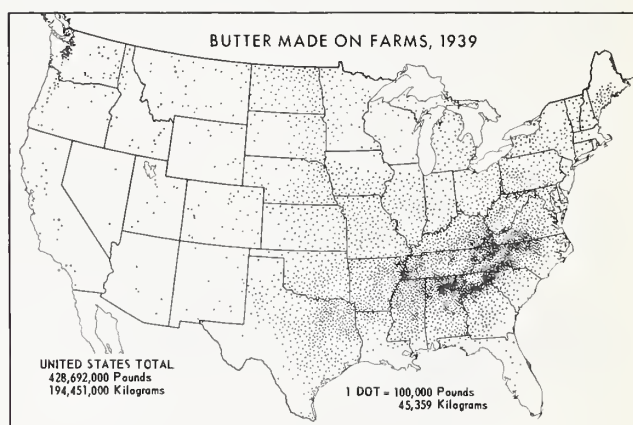
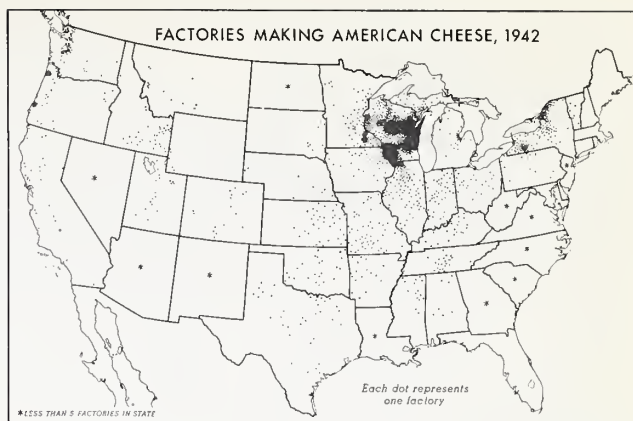
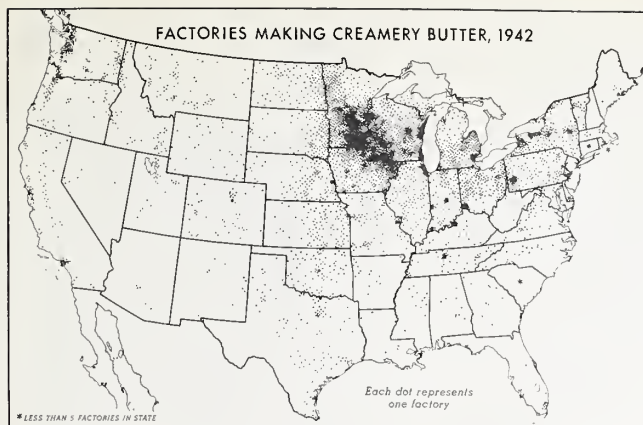
fluid milk make it desirable to have the production as near as feasible to the consumer.

Six-sevenths of the milk produced on farms enters commercial trade channels. Whole milk is the principal dairy commodity that is marketed by farmers in the Northeast, the Great Lakes area, and the Far West. Near large cities most of this milk is processed in plants and sold to city consumers as fluid milk and cream.

In other areas, principally the western Great Lakes area and interior valleys of the West, most of the milk is used for the production of factory dairy products, as cheese, evaporated

and condensed milk, and dry-milk products. Farm-skimmed cream sold to plants for making butter is an important outlet for farmers' milk in the western Corn Belt and the eastern Great Plains, where skim milk can be used to good advantage in feeding pigs or other livestock.

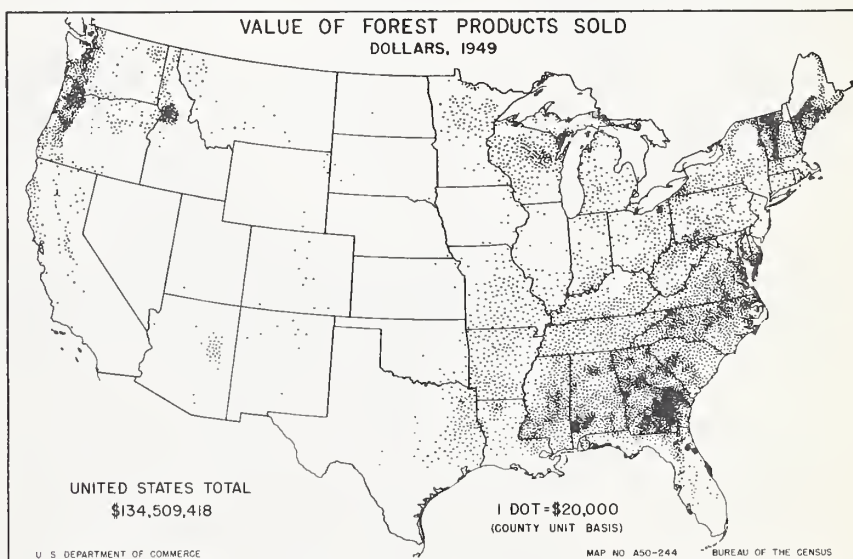
In the South, where most farmers have only 1 or 2 cows, much of the milk is used for homemade butter, or for consumption by the farm family. This is especially marked in the Appalachian and Piedmont country, where the traditional home processing of farm products has continued longest.



## Forest Products

More than 3 million farms in the United States include some forest land. The forest land in farm ownership totals approximately 139 million acres (56 million hectares) and comprises nearly one-third of all the commercial forest land in the country. Most of the forest lands in farm ownership are in the States east of the Great Plains.

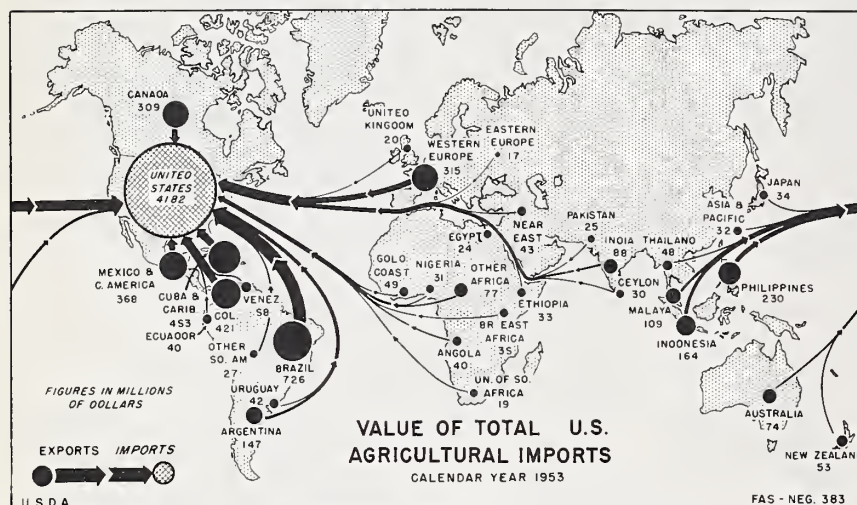
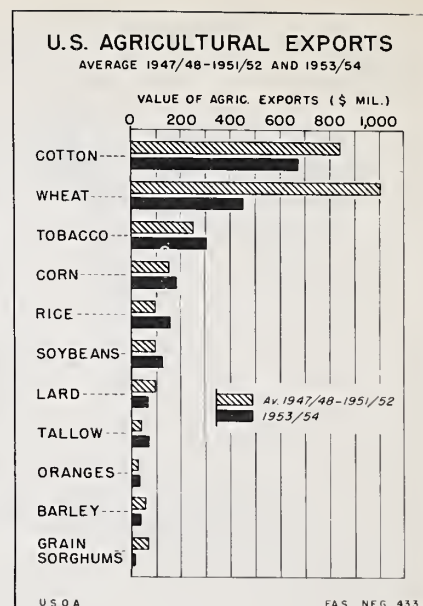
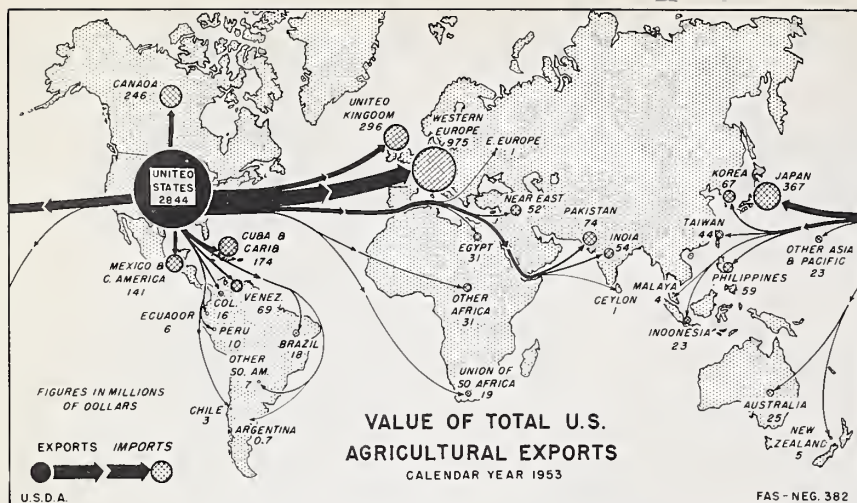
The farm woodlands and other small forest holdings include much of the country's best and most accessible timber-growing lands. On some farms the harvesting and sale of timber to lumber mills, pulp and paper mills, and other processors of forest products is an important source of income. In the Southeastern States, farm owners of pine woodlands produce much of the country's output of gum naval stores (turpentine and rosin).



Because of overcutting and other poor practices, much timberland owned by farmers and other small owners is in understocked condition,

but more and more farmers are beginning to manage their woodlands carefully to assure continuous production of valuable forest crops.





### Agricultural Exports and Imports

The importance of foreign markets to the farmers of the United States is shown by the fact that in 1953-54,

exports amounted to a sixth or more of total production for a number of important farm products. They included tobacco, cotton, soybeans, wheat, rice, and lard.

Wheat and cotton were the largest exports in dollar value. Unmanufactured tobacco, corn, rice, soybeans, and animal fats and greases were also large export items.

Agricultural imports usually constitute about half the total of all United States imports. Of the agricultural imports in 1953-54, about 60 percent were of items not grown in this country, such as coffee, rubber, cacao beans, carpet wool, and tea. The remaining 40 percent was made up of commodities similar to those produced in the United States but for which domestic production was either not in adequate amounts or not in all the varieties that were wanted. The list of such imports included sugar, apparel wool, copra, hides and skins, canned hams, tobacco, nuts, barley, and oats. About two-thirds of the wool and half of the sugar used in the United States are imported.

# Major Agricultural Regions

The general pattern of farm life in the United States was described briefly in the first chapter, and there will be a fuller discussion, in the next chapter after this one, of some basic characteristics that United States farmers have in common. The present chapter will show how differing ways of farming and of living have developed in broad regions of the country.

The farm products presented in the preceding chapter can be grouped into regional patterns. In nearly all parts of the country a wide range of farm products is grown but in most localities 1 or 2 farm products are dominant.

This makes it possible to delineate the whole country into generalized type-of-farming regions, except for some widely scattered spots producing fruit, truck crops, and other specialties. The major regions are the Corn

and Livestock Belt, Cotton Belt, wheat regions, range-livestock region, dairy region, western specialty crop areas, and general and self-sufficing region. Minor type-of-farming areas have as their chief products tobacco, sugarcane, potatoes, fruits, and vegetables in scattered eastern localities. Some basic facts about each major region are shown in table 2.

No definite lines separate these generalized type-of-farming regions from one another, for the outer edges of one merge into the other. Corn and livestock, for example, become less important as the high plains are reached and as wheat farming becomes more important. Sharp separation seldom occurs except where there are marked differences in the terrain, or when irrigation is available in a semiarid region. The conditions of rural life differ markedly however, from the center of one of

these major regions to the center of another.

The way the people of a locality make a living gives the area a distinctive quality. When farmers concentrate on the same farm product or products, they have many interests in common. They are concerned about their costs of production, the market outlook, the availability of supplies, and farm policy generally.

A whole way of life tends to develop around the way the farm people of an area make a living. The routines of work and leisure determine to no small extent the types of group activities that are appropriate. The kind of equipment that is used, whether large machines or handtools, is related to the size of the incomes of the families. In some farm enterprises a large amount of hand labor is still essential; in others it is not.

In some areas the ownership of farmland is a major goal of the farmers; in others ownership may be less important than the availability of suitable land to rent. Farm tenants rank below owner-operators in economic and social status in some areas, whereas they are generally equal in

GENERALIZED TYPES OF FARMING IN THE UNITED STATES, 1949

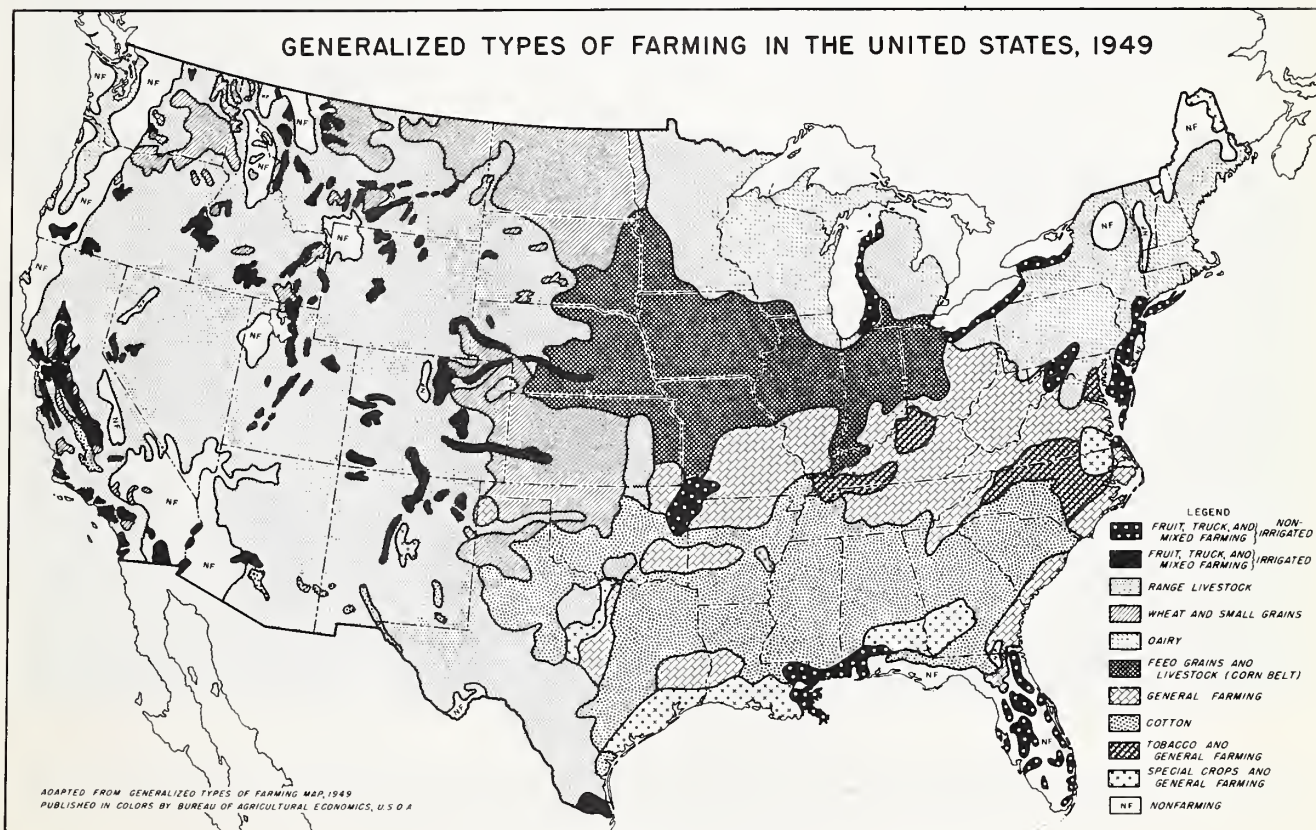




Table 2.—Some facts about the major agricultural regions of the United States <sup>1</sup>

Major agricultural region	Number of counties	Total population 1950	Rural farm population as percentage of total population, 1950	Number of farms, 1950	Percentage of operators who were tenants, 1950	Commercial farms as percentage of all farms, 1950	Percentage of all operators reporting 100 or more days of work off the farm, 1949	Farm operator family level of living index, 1950 <sup>2</sup>	Average value per farm of products sold, 1949	Average value per farm of land and buildings 1950
	<i>Number</i>	<i>Millions</i>	<i>Percent</i>	<i>Thousands</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>		
Cotton Belt.....	690	22. 2	32	1, 592	44	65	20	82	\$2, 221	\$7, 293
Corn and Livestock Belt.....	469	14. 1	24	878	32	87	15	161	6, 436	23, 355
Wheat region.....	250	3. 2	30	260	26	91	12	150	7, 853	29, 769
Range-livestock region.....	334	4. 4	19	190	19	77	22	137	7, 958	29, 636
Western specialty crops.....	98	11. 5	7	204	13	74	31	165	11, 421	34, 800
Dairy region.....	269	36. 5	8	611	12	74	27	154	4, 522	13, 543
General and self-sufficing region.....	552	21. 5	21	1, 025	14	51	31	97	1, 869	7, 050
All other rural areas.....	397	20. 9	13	621	18	63	29	117	3, 694	11, 497
Urban counties (and independent cities).....	13	16. 4	-----	1	-----	-----	-----	-----	-----	-----
United States.....	3, 072	150. 7	15	5, 382	27	69	24	122	4, 097	13, 983

<sup>1</sup> The data in this table are based on a classification of county units, giving a slightly different and less exact delineation of regions than shown in the accompanying map.

<sup>2</sup> United States in 1945 equals 100.

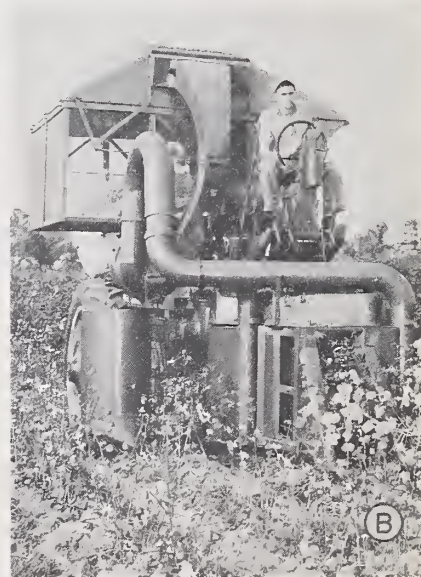
others. In some type-of-farming situations, a great value is put on frugality as the basis of security. In others, so-called risk farming is recognized by farm families as the only way to make enough in good years to carry themselves through the bad years. The reasons for these differences are best understood by examining the farm life in each of the major generalized type-of-farming regions.

It should be remembered that in all regions there are many farms not fitting the predominant pattern, but producing some other products or having a diversity of crops or livestock.

### *The Cotton Belt Is Large, Populous, and Changing*

Cotton is produced in the South, where the growing season is long.

Cotton is not grown in some areas that immediately adjoin the Gulf of Mexico and the Atlantic Ocean because excessive rainfall there hinders the control of pests and damages the open boll during the harvesting period. Throughout the Cotton Belt, the soil, topography, and labor supply affect the ratio of cotton to other crops, which include tobacco, peanuts, corn, wheat, truck crops, pas-



Most cotton is still picked by hand.

A. Negroes picking cotton on a plantation in Arkansas. Some of the pickers live on the plantations, and some are transported daily by truck from nearby towns. B. A mechanical picker on a Mississippi plantation. About a fourth of the 1953 crop was picked by mechanical pickers and strippers. The number of machines in use is increasing from year to year.



ture and livestock, sweetpotatoes, and toward the west, grain sorghums and range livestock.

The earlier production of cotton year after year, combined with heavy winter rains and the tight clay subsoil in much of the region, resulted in rather severe soil erosion in most of the upland cotton areas. Increases in diversification in recent years and especially the development of pastures for livestock have reduced somewhat the ravages of the weather and of the continual planting of row crops.

The Cotton Belt contains more counties and more farm people than any other agricultural region. It has 23 percent of all the farm counties in the country, and 31 percent of all the farm people. Its rate of farm tenancy is highest, and its average value of farm products per farm is relatively low. But the organization of farming has, in recent years, undergone more change here than in most other regions.

Cotton production has traditionally required much hand labor. On the small and medium farms, whether of owner or tenant, most of the work is done by the farmer and his family. On the plantations it is done largely by sharecroppers and hired farmworkers. In the census, each sharecropper unit is counted as a separate farm and the sharecropper as the operator. This must be kept in mind when interpreting census averages

such as those in the previous table. There are very few large plantations left in the South but there are still many sharecropper farms in smaller "multiple units." The total number of sharecroppers has been decreasing rather rapidly.

Farmwork in cotton production is highly seasonal. The busy times come in the spring and early summer when the planting and hoe work is done, and again in the fall when the cotton is picked. During the remainder of the year—a short period in midsummer and the winter months—there is relatively little farmwork to do.

The late summer period of slack work is a popular time for religious revival meetings, family reunions, and barbecues; after the cotton is sold, fairs and carnivals are held. In winter, there is considerable leisure. All the people, irrespective of race or status, like to visit their friends and relatives. The people are generally unhurried in their relations to one another.

Work off the farms is available in the areas that are nearest the larger towns and industrial centers but is scarce in most other areas. No one of the 15 largest cities in the United States is in the Cotton Belt, and only 2 of the 25 largest cities.

The Cotton Belt is the most rural part of the United States. In 1950, a third of the people lived on farms compared with about a sixth for the

country as a whole. It is the region with the largest percentage of non-white people, and the lowest level-of-living index for farm operators. (This index is a rough measure of living levels based on the percentage of farms having electricity, telephones, and automobiles, and the average amount of farm products sold or traded. It is based on the United States average for 1945 as 100.)

The high rural birthrate of the region has been accompanied for years by a steady exodus of Whites and Negroes to the cities of the South and North. More recently many have gone to the growing cities of the west coast. There are some who like to say that the South's greatest export has been not cotton but people.

Cotton farming has been characterized by a relatively low average income. Before the middle 1930's, fluctuations in yields and prices resulted in much uncertainty as to the return for the year's work. Since then, however, prices have been more stable and yields have been increasing. Mechanization has reduced hand labor requirements, especially on large farms, and supplemental income from other crops and livestock and from off-farm work have materially increased the general standard of living.

Despite these changes, in many areas the old regime is very much in evidence—small fields of cotton, sharecropper cabins, one-mule plows,



Farmhouses in the cotton country.

A. Home of a sharecropper. B. Home of a medium-sized farmer. Even greater extremes of housing are sometimes found in the Cotton Belt, from sharecropper cabins to the homes of plantation operators. In 1950 nearly a fifth of all farmers in the area were sharecroppers but their number is decreasing; less than 1 percent were owners of large plantations. Farm tenants other than sharecroppers made up about a fourth of all farm families in the cotton country.



large families, and little or no cash except from cotton. On such farms the farmers get their cotton money in the fall at harvesttime; and most of them, especially the farm tenants, spend much of their cash income shortly after they get it. This makes for prosperous times in trading centers when yields and prices are good. When yields or prices are low, many farm tenants find it difficult to pay their bills and provide for themselves through the winter. Landlords' incomes are also uncertain.

During the past decade or two, beef-cattle production in the South has grown very rapidly. Increases in poultry and dairy production have been phenomenal. In many areas that have shifted to livestock, former sharecropper cabins are now vacant or are used for feed storage. Cattle now graze in lush pastures where in past years hoe hands labored to keep grass out of the cotton. Industry has moved and is continuing to move South, and farm tenants as well as many landowners are employed locally or have moved to northern industrial centers.

Cotton growers are beginning to mechanize their work where the land is most level and the farming units are largest, that is, in the irrigated cotton-producing areas of the Far West, and in the unirrigated plains areas of Texas and Oklahoma and in the fertile Mississippi Delta. They are using the newly developed mechanical cotton pickers, and systems

of planting and cultivation that make it possible to reduce greatly the amount of hand labor needed. This shift is also occurring to a less marked extent elsewhere in the Cotton Belt. As a result of increased mechanization and the expansion of livestock production, there will probably be a still further exodus from farms of ex-sharecroppers and other farmworkers. Many of these farm people are poorly prepared, through education and experience, to live in the cities to which they are moving in great numbers. But the increase in mechanization and livestock farming is likely to bring higher levels of living to those who remain on the land.

### ***The Corn-Livestock Belt Has Many Family-Sized Commercial Farms***

Corn and livestock are found together, since most of the corn is fed to farm animals grown for meat. The upper Mississippi Basin with its level land, dependable rainfall, hot summers, and deep, rich prairie soils is an ideal region for corn. To replenish the soils and to spread the use of their labor and their farm equipment, the farmers also grow other feed crops, and most of them raise livestock. Oats are sown in the spring before corn planting begins and are cut in the summer after the cultivation of corn is completed. Soybeans are planted after corn and are har-

vested earlier. Winter wheat is seeded shortly before the corn is harvested. These crops may be sold for cash or fed to livestock—hogs, beef cattle, poultry, and sheep—in various combinations, according to local soil and market conditions and the preferences of the individual farmers. Clover and other legumes grow well and are used for pasture and hay. Corn-livestock farms are family-operated commercial enterprises, averaging between 160 and 200 acres. In addition to the crops and livestock produced for sale, these farms grow a large part of the family food supply. Compared with the country as a whole, a smaller proportion of farm operators work off their farms and the use of hired labor is more limited than in most other regions. The level-of-living index of farm operators in 1950 was far above the national average. The value per farm of land, buildings, implements and machinery, and livestock was nearly double the national average, and gross farm incomes were 50 percent above it.

Most of the land is in cultivation or fenced pastures. As seen from the air, the corn-livestock country presents a checkerboard appearance; it has rectangular fenced fields and the roads are laid out by the compass, following section lines one mile apart. There are big barns and prosperous farmsteads on all sides.

The farmwork is distributed over the whole year, with the busiest seasons in the spring, early summer, and



**An Iowa farmstead in winter.**

Farmsteads in the corn-livestock region are substantial. In the winter the barns shelter the cattle, hogs, and other livestock. Corn and other grains are stored in the farm buildings nearby. Hay is sometimes piled in ricks in the barnyard where the cattle can eat it at will.





Feeding shelled corn to Angus beef cattle.

About six-sevenths of the corn grown in the Middle West is fed to livestock, mainly hogs, beef cattle, and poultry. Much of the corn is planted, cultivated, and harvested by machinery. It is usually shelled by electrical motor or tractor power.

fall. Then the workdays are long. In August a period of lighter work allows time for family picnics, fairs, and vacation trips. Except during the seasons of heaviest work, farm families can usually arrange to get away to go to town, visit auctions and markets, and attend farmers' meetings. Corn-livestock farmers work hard during young manhood and early maturity, making full use of machinery and science. In later middle life, many of them retire to live in town on funds from the sale or rental of their farmlands.

The physical work of farmers in this region was formerly very strenuous. A day during the season of peak work might extend from 4:30 o'clock in the morning to 9 in the evening. However, the corn crop is now planted, cultivated, and harvested largely by machinery. Much of it is never touched by the human hand.

Corn-livestock farmers are well organized. They maintain strong farmers' organizations, including farmer cooperative associations of various types.

The people are of a great variety of national origins. Most of them have come or derived from northern Europe. At first, there were many rather distinct nationality communities, each with its church service and many with a local newspaper in their native European tongue. Gradually the people all began to use English and found they had many things in

common. They like the sense of community that developed and think of themselves now as the most American of the Americans.

### *The Wheat Regions Have Known Prosperity and Hard Years*

Wheat is grown throughout most parts of the United States, excepting only where rainfall is excessive or is less than 6 inches a year. The major wheat regions, however, are those areas in the western plains in which there is enough moisture for small grain and not enough for corn and many other crops.

The wheat regions center in the central and northern Great Plains, and in the Columbia Basin of the Pacific Northwest. Except for the Palouse section of the Northwest and a few other places, the yield per acre is low compared with the yield in more humid areas, where other types of farming are possible and are more profitable. In some parts of the wheat regions barley, sorghum, and oats are also grown. Peas are a part of the crop rotation in some of the Pacific Northwest wheat areas. No legume has been found or developed that is well adapted to the limited rainfall and periodic droughts of the dryer parts of the wheat regions in the Great Plains. Crop rotation there is therefore limited chiefly to "summer fallow;" that is, cultivating of unused fields to conserve moisture for next year's crop.

Wheat farming is done with big machines, without which the planting and harvesting would be slow and expensive. Thus, the farms are very large, and people are settled sparsely on the land. Towns are few and there are no really big cities. Churches are usually in the towns, and consolidated schools are taking the place of open-country schools which were difficult to maintain.

In much of the wheat country, the treeless skyline is broken only by an occasional shelterbelt of trees, by windmills at farm sites, and by grain elevators. The grain elevators are great upright bins for storing wheat and other small grain. They are built beside railroad tracks and are usually located near the towns, which in this region have wide streets and low buildings.

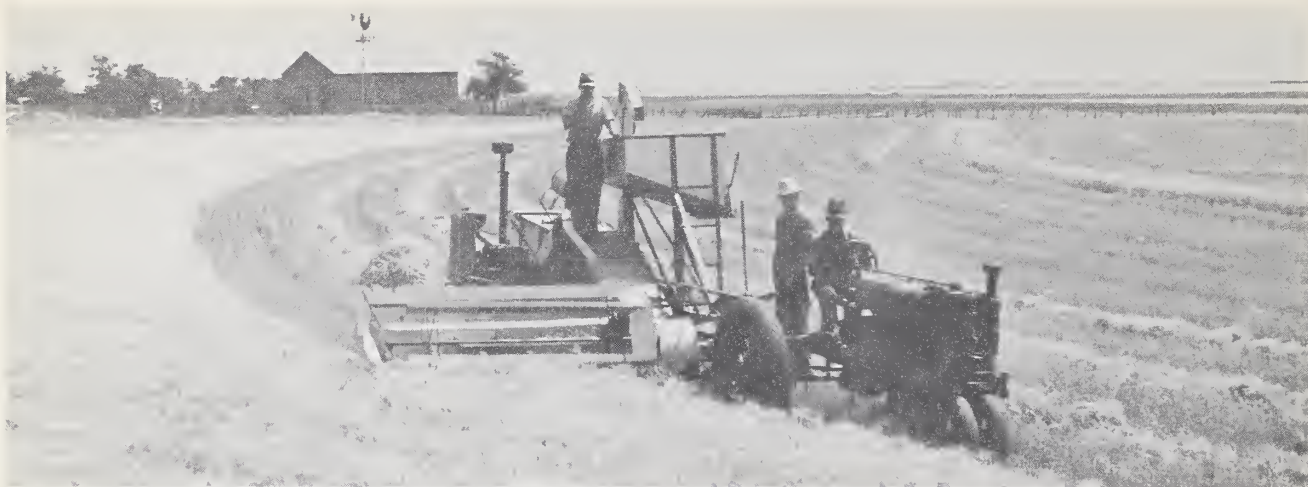
Except during the peak work at seeding and harvest time, when vigorous effort and long hours are the rule, farm families in the wheat country have considerable leisure. Families visit their neighbors for miles around and join in picnics, church suppers, and high-school athletic contests. Desire for high-school education leads many families to move to town, from which the men go by automobile to work on the farms.

There is little feeling of difference between town and country people, or between families of high or lower income, for nearly everyone gets a taste of both good and hard times as yields, prices, and farm incomes fluctuate.

The wheat farmer's economic life is one of ups and downs. In many portions of the wheat country the rainfall is uncertain, and hailstorms and grasshoppers are an annual threat. The people are much like those of the Corn Belt to the east. They are people of many nationality origins, mainly from northern Europe, with a considerable element in some localities from eastern and central Europe.

The people of the wheat country find the windswept spaces satisfying. Here are seen the biggest farm machines in the country, and the men who operate them feel their bigness. The people of this area remember the dry 1930's—when crops were very short and crop failure common. A part of the wheat area of the Great Plains was then called the Dust Bowl.





Wheat farms are large and highly mechanized.

Wheat is the principal crop where rainfall is not sufficient for other kinds of farming. Large acreages are needed; yields fluctuate greatly and farms must make enough in good years to carry them through the bad years, and some land must be left in summer fallow to conserve moisture.

Dust storms were common. Excessively dry periods have occurred in this region from time to time, but in recent years farmers here have had a high level-of-living index.

Many important practices have been learned for coping with the lack of rain: How to preserve the limited moisture by summer fallow and stubble mulch, and how to guard against wind erosion by stripcropping. The farmers now use precision in planting and harvesting. A few days too early or late may mean loss of soil moisture or destruction of the ripe grain by wind or hail. For many of these decisions they rely on their own judgment. For wheat-planting dates they wait for the announcement by the State college that the time has passed when the Hessian fly is a threat. For better seed and better machines they are glad to accept the advice of experts. But they are convinced there is a high degree of speculation about what will succeed in any one year.

"If you can't take failure along with success," the wheat farmers say, "you had better get out of this part of the country." They share adversity and prosperity and do not depend on leaders nearly so much as on themselves. They practice mutual aid, establish cooperative marketing and crop insurance. They believe in their own ruggedness and efficiency. It is in this belief, and in the hope that next season will be a good one, that their security lies.

### *The Range-Livestock Region Is Large and Thinly Settled*

The range-livestock region is made up mainly of those great areas in the western part of the country that are too high, dry, or of unsuitable topography for other agricultural uses. The range country lies in a band 500 to 1,000 miles wide stretching from Mexico to Canada. It comprises 30 percent of the land area of the United States, carries about one-seventh of the cattle and about half of the sheep, and has 3 percent of the Nation's total population. It has a rough and varied landscape, and rainfall generally is slight except in some of the high mountains. As noted earlier, much of this land is owned by the Government. Ranchers obtain grazing privileges on these public lands for a nominal fee. Interspersed throughout the ranch country are mining enterprises, picturesque recreation centers, and irrigated farming areas.

It is a country of many cultures derived from the Spanish of the 16th century, Indians from still earlier times, and the various cultural backgrounds of settlers from other parts of the United States. This sparsely settled region has several prevailing qualities of life, such as the personal, friendly, and generally democratic relation between all individuals, whether big ranch owners or hired cowhands. An exception to this pattern is that the Indians live apart as rather a different people, as do also to

a lesser degree the Mexicans and the Americans of Spanish ancestry. Many of these work as hired ranch laborers. Some Spanish Americans, Mexicans, and Indians herd sheep on the range and do intensive subsistence farming on small plots in or near their villages.

There is considerable leisure in the range-livestock business during the year, but there are busy periods. Cattle are brought to the ranch headquarters or some central point once a year to be dipped in vats of chemicals to remove insect pests. At this time the calves are castrated, and branded with a hot iron to indicate the owner. For sheep raisers there is a very busy period when the lambs are being born, and then again during the docking and shearing time. On some ranches sheep are moved in the summer to higher ranges and brought back again in the fall. Severe blizzards cause ranchmen much extra work, for the animals must be fed and some must be moved to more sheltered spots on the range. Ranchmen seldom have barns that are adequate to shelter their animals. On the many ranches that grow forage crops for winter feeding, there is seeding and haymaking to be done. In the eastern edges, some wheat and a little corn are grown. Cottonseed cake and other bought feed may be used to supplement the winter forage.

Ranching is a serious business. Those who make their living by it



have little use either for the "dude ranch," where vacationing city dwellers come seeking the glamor of the old cowboy country, or for the "luxury ranch," where wealthy people entertain themselves and their guests. The real rancher knows that he must have good breeds of livestock, that a constant supply of grass and water is essential, and that he must remain prepared to make big decisions quickly and wisely if his business is to be profitable. It may be years before the results, good or bad, become apparent. Managerial ability is valued very highly. All members of the family often take an active part in routine ranchwork, such as riding out to examine the fences and watering places and caring for calves and sick animals.

Ranch families buy much of their food and spend money freely for clothing, automobiles, recreation, and education. Their houses, comfortable but usually plain, are miles apart. The range is usually measured by square miles called sections, not by acres; towns are small and far apart; and there are no big cities. Cowboy hats and boots are popular, and cattle brands are used as decorations in hotels and restaurants. The people are sociable, take an uncritical personal interest in one another, and keep up with the going and coming of

their next-door neighbors, who may live many miles away.

### ***Specialty Crops on Irrigated Land***

Irrigated farming is scattered throughout the West, intermingled with dryland farming and livestock ranching, from near sea level up to elevations of 6,000-7,000 feet (about 2,000 meters). It is confined to the more level, fertile soils having access to irrigation water from reservoirs, streams, or wells. Irrigation is expanding in existing areas and into new areas under the sponsorship of private individuals and associations, State agencies, and the Federal Government. In 1950, more than 21 million acres (8 million hectares) were under irrigation in 17 Western States.

Construction of many irrigation projects has been financed by public money. The size of each ownership holding that could be served by Bureau of Reclamation projects was at first limited to 160 acres (65 hectares). This limitation was set to preserve the family-sized farm. More recently the size of permissible holdings has been specified in the legislation for each project. Preference in settlement on Federal projects is given to families who operate the land themselves, including veterans.

When they think of irrigated farming, most people probably think of specialty crops. Actually not more than one-sixth of the irrigated land is used for specialty crops in the Western States. Hay, pasture, grain, and cotton are grown on three-fourths of the irrigated land. Rice, dry beans, and dry peas are also grown under irrigation. Specialty crops are important because of their high value per acre and because they generally require large amounts of labor, fertilizer, and supplies, intensive management, and specialized packing and processing facilities. Even in areas of concentration, specialty crops usually are grown in rotation with field crops and usually do not occupy more than one-third (often less) of the irrigated land in any one year.

While most irrigated areas in the West produce at least one intensive crop, many areas do not take on the aspects of a specialty-crop area. The remainder of this section pertains to the western specialty-crop areas, typical examples of which are the Salinas, San Joaquin, and Imperial Valleys in California, and the Salt River Valley in Arizona. The scattered areas in this classification are characterized by a very low percentage of resident farm population and high average incomes and levels



**Yearling calves feed on the Montana range.**

Born on the open range, young beef cattle follow their mothers until rounded up and separated out for branding. Some are marketed directly from the range. Others are shipped into the Middle West where they are fattened with corn.



of living for farm operators, and by the extensive use of migrant labor.

Many specialty products from these and other irrigated areas have become a regular part of the diet all over the country. A wide variety of crops are produced, including almonds, apricots, avocados, berries, cantaloups, carrots, celery, cherries, figs, grapes, lemons, lettuce, melons, mushrooms, nectarines, olives, oranges, peaches, pears, potatoes, prunes, spinach, sugar beets, tomatoes, walnuts, and many kinds of flower, vegetable, legume, and grass seeds, as well as bulbs and horticultural nursery stock. Many of these crops are especially adapted to the Mediterranean-type climate along the California coast.

Specialty crops require large yields of a high-quality product. This in turn calls for intensive management and a high degree of skill in the techniques of production, processing, and marketing. Therefore, each operator tends to emphasize one or two specialty crops, aside from the field crops needed in the rotation. Much of the agriculture in specialty-crop areas is highly commercialized and specialized and some is industrialized; that is, a high division of labor is practiced.

Rotation field crops on the farm are usually produced by the resident operator himself; he may also manage any

perennial fruit or nut crops he has. However, many farmers rent out to a specialty crop operator any land that is ready (in the rotation) for an annual specialty such as lettuce or carrots. The larger specialty operators may own their own machinery, or may hire certain operations done under contract. They have the capital or credit and the business contacts to get skilled foremen and seasonal laborers to do the different kinds of work.

The average acreage per grower of apricots, figs, olives, and walnuts is under 5 acres, and of table grapes and almonds, under 10 acres. Large-scale operations are more common in head lettuce, carrots, asparagus, and cling peaches where the acreage per grower averages from 40 to 75 acres.

Most large operators, whether owning or leasing, live in town, as do also the foremen and workers. Many of the smaller operators, but not nearly all of them, live on their farms. Farming for home consumption is done less here than in any other major region. Still, many people have productive home gardens.

The people of these western specialty-crop areas are varied in their origins. They include people from the dairy region, Corn-Livestock Belt, Cotton Belt, wheat regions, and other parts of the United States. A large

in-migration from the Midwest came during the drought and economic depression of the 1930's. In addition, there are people of more recent foreign origin: Germans, Italians, Portuguese, Irish, Chinese, Scandinavians, Russians, Japanese, Filipinos, Mexicans, South Americans, Canadians, and Hindustani.

Mechanization of some farming operations and not of others results in a great demand for seasonal hand labor, especially in hoeing and thinning and in harvesting. This demand is supplied by local resident workers and by migrant workers, sometimes whole families, who stay in tourist cabins or in trailers on the edge of towns, or in temporary housing supplied by the grower. Sanitary facilities are often poor. How to school the children of itinerant parents, as they follow the harvest, is a persistent problem.

Seasonal workers, whether resident or migrant, are largely unorganized, but wage scales and working conditions are generally standardized for each job. Wage scales are high relative to most other areas in the country but the employment is usually temporary. In recent years, when farm labor has been scarce, workers from Mexico have been brought into the specialty-crop areas through an international agreement.



Western specialty farming is done on irrigated land.

A. This orange grove in southern California is a giant garden in a desert. Water comes to the groves by gravity flow from the distant mountains. B. Much hand labor is needed when carrots are ready to harvest. The crop is planted and cultivated by machines. Other specialty crops, too, must be picked by hand labor. Many farm-labor families follow the harvests up and down the west coast.





A dairy farm in New Jersey.

This dairy farm is owned and operated by a father and son. It derives its main income from sale of milk from a herd of 40 purebred Holsteins. Poultry and hogs are a sideline.

The producers of certain commodities are organized into grower associations. Examples of commodities having such associations are walnuts, almonds, citrus, and raisins. These associations supply growers with information on production, quality standards, market conditions, and marketing agreements. Some products, the four just named, for example, are sold through large producer-cooperatives. In some areas producer associations cut across commodity lines. Such associations concern themselves with the broader interests of agriculture, such as irrigation development, transportation, general wage rates, and facilities and services for workers.

### *The Dairy Regions Are Near the Great Cities*

Although cows are usual on farms in most parts of the United States, the greatest volume of milk is produced near the large cities. There is at least a small dairy area around practically every large city. But commercial dairying is the dominant agricultural enterprise only in the populous North Atlantic States, extending westward past the Great Lakes, and also along the north Pacific coast.

Of all foods, milk is the heaviest, the most perishable, and the most expensive to ship and distribute to the consumer.

The 269 counties in the dairy regions include the 3 largest cities of the country, and 8 out of the 15 next largest. In the dairy country as a whole, 76 percent of the people live in cities, and another 16 percent live in rural areas but do not farm, leaving only 8 percent of the total population in farm households.

Most of the farm people in the dairy regions are of northern Europe origin. Some of their ancestors came here very early; this is especially true in New England. Around the Great Lakes most of them came less than a century ago. There are many foreign-born people in the great cities of the dairy country.

The dairy region is one that has been expanding in response to the increase of the nonfarm population, and to the greater consumption of dairy products that has come with the general rise in the levels of living of the people in the country as a whole. Dairying has become the dominant agricultural enterprise in numerous counties that were formerly characterized by general and

self-sufficing farming. The latest shifts from general farming to dairying have taken place in central Pennsylvania and in the far Northwest.

The dairy country has weather that is especially favorable for dairying. There is ample rainfall, and grass grows rapidly through the short summer. The winters are long and severe, necessitating well-built barns and stored feeds. The growing season in some parts of the dairy country is too short to ripen corn. Green corn is used rather widely for silage.

Large quantities of feed concentrates are used on dairy farms. Much of this feed is obtained locally in the Great Lakes region. But great quantities of feed are shipped into the northeastern region.

It is usual to have one or more supplementary farm enterprises on dairy farms. Common among them are small grains, potatoes, cabbage, dry beans, fruit, truck crops, and poultry.

There is a great deal of small-scale and part-time farming in the dairy regions. This is because there are ready markets for specialty farm products and because there are many



opportunities for industrial employment of rural people in the towns and cities of the dairy country. Commuters can get to work in the worst winter weather, for most of the roads are hard surfaced, and practically all of them are kept open in the snowstorms, so milk trucks can make their daily rounds.

Commercial dairying can be successful only when the farm family is willing to work every day of the year and give continuous attention to details. These requirements were admirably met by the traditional way of life in New England, with its emphasis on foresight, frugality, and dependability. In Wisconsin, Scandinavians settled the areas west of Lake Michigan after the timber had been sold off. They began first with subsistence farming, but when railroad transportation became available, they soon found dairying profitable, especially the production of cheese and butter. The University of Wisconsin assisted in the development of successful dairying in the State.

A large part of the work on a dairy farm has to be done daily, and a single oversight may have far-reaching consequences. Cows are fed and milked each morning and evening, usually at a definite time by the clock. Fluid milk, highly perishable, must be cooled and put into cans or tanks immediately to meet the regular schedules of the milk truck and milk trains. Or if cream is sold, it must be separated and cooled and stored for shipment to the butter factory. Milk pails, cans, cream separators, and milking machines must be cleaned carefully twice a day—tasks done on some farms by the women. There are weekly, seasonal, and annual work rhythms, such as breeding of stock, raising of calves, hauling out and spreading the manure, care of buildings and equipment, handling of supplementary farm enterprises, buying supplies, and attending farmers' meetings and livestock sales. The dairy farmer is on the job every day of the year, year after year. Dairying is not an in-and-out matter as wheat and vegetable farming can be.

Dairymen value land ownership and stability. Sons often take over their fathers' farms. The farm tenancy rate is low and father-son partnerships are numerous. Dairy

farmers keep their houses and barns painted and in good repair and take pride in the appearance of their silos, fields, and fences. Above all, they take pride in the production records of their cows, each of which they call by name.

If he wants to hire a helper, the dairy farmer looks for the same qualities that he values in himself and his family: Dependability, promptness, faithful attention to details, and considerate handling of each cow.

There are a few giant dairy farms. But the bulk of the milk is produced on family-sized farms, where the work is done by the farmer and his family.

The social and business contacts of dairy farmers are usually limited to about a 25-mile radius, for the family cannot leave home until the morning chores are done and must be back to begin the evening chores by late afternoon. High schools are

centers of interest and recreation; churches are active, though often small. The local towns are stable, for farmers regularly go there to market their milk and cream and to buy their supplies. Farmers' cooperatives, first developed in this country among dairymen, remain strong.

### *General Farming— Highlands and Handicrafts*

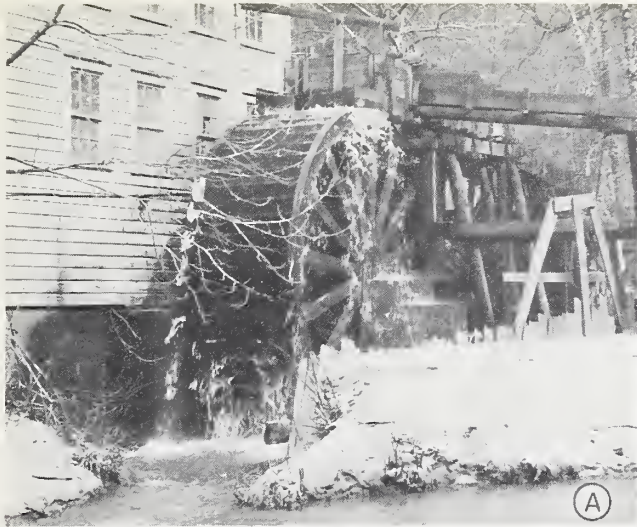
The general and self-sufficing regions lie mostly in the eastern highlands of the country, which include the Appalachian Mountains, a few hundred miles inland from the Atlantic coast, and the Ozark-Ouachita Mountains, west of the Mississippi River. Farming here is somewhat like the frontier farm life of early America. Many handicraft articles are produced. Some are for home use; others are for sale at roadside stands and at tourist centers.



A dairy farmer using a milking machine.

A milking machine milks two or more cows at one time, thus enabling a farmer to handle a larger herd with less labor. It is powered by electricity.





Elements of frontier life remain longest in the hills.

*A.* A former member of the United States Congress from Georgia owned this water-powered grist mill. Many people think that water-ground flour and meal are tastier and more nourishing. *B.* Basketmaking was learned by this woman from her mother, who had learned it from her mother. It is a satisfaction to make a beautiful and useful thing out of the willow sprouts that grow so plentifully along the creeks. Besides, the sale of baskets brings in some additional money.

Most of the people are native born, descendants of earliest settlers who originated in northern Europe, especially in the British Isles, and later settled here. In some of the more isolated parts of the southern Appalachian Mountains, genuine old English ballads may still be heard. Also, traces of Elizabethan English are still evident, and traditional English folk dances remain favorites of the hill people. In later decades, some people from central and southern Europe moved into these hills, but most of them settled in the industrial and mining centers.

Most farm products here are grown primarily for family use. Those sold are the small surpluses left over after the family needs have been met. Local sawmills are common, as are flour and grist mills. Some of them are still powered by water. In this live-at-home farming country, springhouses are used to keep butter and milk cool, smokehouses to cure meat, cellars to store vegetables. There is some production of truly commercial crops in the larger valleys.

The gross value of farm products sold per farm is lower than in any of the other major agricultural regions in the country. The region also has the smallest percentage of commer-

cial farms, only about half of all farms being so classified. Farm incomes within this region are progressively lower to the south and west, and as the distance from cities becomes greater. In the more isolated parts of the southern mountains housing standards are low, and home conveniences are few.

Tools and equipment are simple over most of the region. Many farms have tractors in the larger river valleys and in the northern parts of the regions where dairying is on the increase. In some southern mountainous counties, tractors are rare: Here hand equipment and sleds are common. In most sections there are many 1- and 2-horse plows and horse-drawn wagons.

Eighty-six percent of the farmers are owners or part owners of their farms. The proportion of farmers who supplement their incomes with off-farm work is large. In 1950, nearly a third of all the farmers worked off their own farms for 100 days or more. The kind of work varies with the locality. In some places, there is sawmilling, in others coal mining, or work in such industries as textiles, aluminum, and steel.

The importance of products grown for home consumption and of off-farm employment is reflected in the

level of living of the farm people. In 1950 the general and self-sufficing regions had the lowest average value of farm products sold for any type of farming region, but the level-of-living index for farm-operator families was higher than that in the Cotton Belt. It was still far below the national average. The average value of farm products used by farm families was higher in this region than in any other when such information was obtained in the 1945 census.

The people are independent and resourceful: they are often silent and reserved. They rely upon traditional ways of doing things and look askance at taking risks. They have always put great value on getting along with what they have.

Birthrates are high. Farming opportunities are limited in most of these areas. Hillside erosion is widespread; and the subdivision of the land from generation to generation has resulted in very small farms. Therefore, in recent decades there has been a constant migration away from the farms. As many as a fourth of the people left some of the mountain counties during World War II. Many never came back except for an occasional visit. Others returned home permanently, for they found it difficult to give up the strong family ties,



the close personal relationships, and the scenic beauty of their early surroundings.

### ***Tobacco, Potatoes, Sugarcane, and Fruits***

The parts of the country not included in the seven major agricultural regions discussed above lie mostly around the outer borders of the country. They are characterized by several distinctive agricultural enterprises. Tobacco is grown in scattered localities in the eastern half of the country, with the largest centers of production in North Carolina, Virginia, and Kentucky. Much hand labor is required. The work demands skill but is often tedious.

Sugarcane is produced commercially in southern Louisiana and southern Florida. It, like tobacco, was early grown on plantations and required much hand labor. In recent years, effective harvesting machines have been developed. The sugar-beet crop, traditionally grown by hand labor, is now largely mechanized. Sugar beets are most prevalent on irrigated farms in the Far West and intermountain areas, and in southern Michigan and northern Ohio.

Apples and fruits, other than those produced in the irrigated West and discussed above, are grown around the Great Lakes, in the Pacific Northwest, the Middle Atlantic seaboard, the

Shenandoah Valley of Virginia, and in a few upland areas of South Carolina, Georgia, and Arkansas. Hand labor is a necessity, especially at harvest. Most of the work in the small orchards is done by the family, but in the largest orchards seasonal labor is relied upon.

White potatoes are grown on many farms throughout the country. Commercial production, too, is wide. The outstanding centers of production are in the northeast corner of Maine, in the Red River Valley of North Dakota and Minnesota, in Idaho, and in California.

Oranges and grapefruit are grown in Florida and the southern tip of Texas, as well as in the irrigated areas of the West, already reviewed. The Florida crop is large. Much of it is used for juice to be canned or frozen. The pulp is ground and dried for dairy feed. Florida also produces a number of other subtropical fruits. Strawberries and vegetables for winter use are grown in Florida and along the gulf coast. Hand labor is very important in all these crops. Some of it is done by family labor, especially on small farms. But in the larger enterprises, seasonal labor is widely used.

In all of these minor specialized agricultural areas, rather distinctive ways of life have emerged, as in the major regions described earlier in this chapter.

### ***In Spite of Differences, U. S. Farmers Are Much Alike***

Some differences that occur among United States farmers are accounted for largely by the situations within which they live, even though always more or less affected by their backgrounds. The United States farmer, like people everywhere, is influenced by his means of livelihood. If he is prosperous, he is likely to feel that the world is about right, and he is likely to look upon people who want changes as dangerous. When he is having a hard time, he may look on changes with hope. If he lives in an area characterized by extreme fluctuations between lean and fat years, he is likely to be sympathetic toward other people who are in difficulties and to feel that appropriate public programs should be available to help them through hard times.

When the United States farmer is up against a practical problem—a dry climate, or hilly land, or cold winters—he is likely to devise practical solutions such as irrigation, strip farming, insulated barns; or, in co-operation with local agricultural technicians, he may devise a new method of farming, such as dry farming, to fit in with a situation he cannot change. When he is faced with pressure of population on natural resources, he may seek other sources of income and encourage his children to move to other areas and into industry. The door remains open for their return in hard times. Also, as he looks at his situation, he may decide that his best course is to learn to live contentedly with limited means. All kinds of adaptations have been made to local conditions by United States farmers. But, in general, they have been industrious and resourceful in improving their situation.

It will be noted throughout this chapter that farmers of each region, and of each type of farming, have a deep attachment to their way of living and to the scenes and surroundings in which they spend their days. Their differences are merely variations within the overall pattern of rural life in the United States.

In the next chapter some basic characteristics of United States farmers in general are outlined.



**In the hill country, general farming is done.**

Of all the farmers in the United States, the hill farmers grow the most products for home use. They butcher meat and cure it in the smokehouse; they churn butter and keep it cool in the springhouse. They sometimes take their own wheat and corn to a grist mill to be ground into flour and meal.



# Characteristics of U. S. Farmers

The farm people of the United States, although marked by individual differences and regional patterns of thinking, are alike in many important respects. They have in common a tradition of self-reliance and independence. These qualities developed from the long frontier experience, and from the general practice of each farm family living to itself on its farm. This dispersed pattern of settlement stands in sharp contrast to the village pattern of settlement, usual in most parts of the world.

## *Frontier Experience Required Self-Reliance*

To understand better the basic character of United States farmers, we must briefly review their experience in America, which, historically speaking, is rather short. Measuring back from the present (1955), Columbus' voyage of discovery was 463 years ago. The United States won its independence from England 179 years ago. Settlement had reached only about halfway across the continent a century ago, and the last territory in continental United States to become a State achieved statehood only 43 years ago.

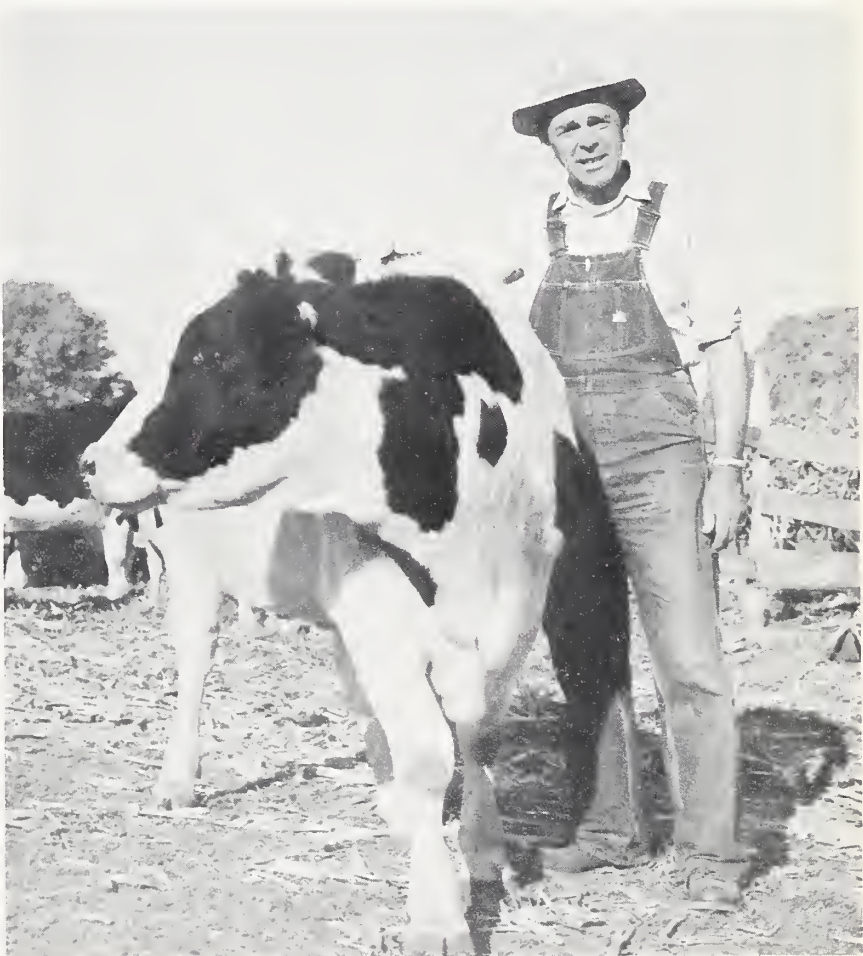
Farm families since colonial times have done most of their own work. Generally speaking, when a family was industrious and enterprising it improved its conditions at a rapid rate. Physical resources have been abundant, and manpower has been short. Farm families therefore figured out many new ways of doing things. The better ways have spread around, because the people have been on the lookout for the best equipment and practices. So, anywhere in the United States, despite the differing backgrounds of the people, the farmers have long been using much the same kinds of farm equipment for similar work. This has been especially true in more recent times with the use of tractors, combines, corn-pickers, and milking machines. It was also true to a marked degree in

earlier years when horsedrawn moldboard plows and spike-tooth harrows were used.

The farmers of the United States as a group have a background of frontier living behind them. From the early 17th century to the beginning of the 20th—for 9 or 10 generations—they had the opportunity of moving on west to new frontiers. In the meantime, new transoceanic immigrants were coming into this coun-

try all along. Even those who remained in the older United States settlements had kinsmen who went west. To this day, the people readily move from one part of the country to another in search of new and better livelihoods.

In nearly all instances, until fairly recent times, life on the newer western frontiers was much as it had been earlier when the eastern settlements were new. A man and his wife and children were largely dependent upon themselves. Most of the frontier settlers, early and late, were families who were more or less separate and apart from other settlers. But, after much self-sufficient living as a family unit, they found it desirable to cooperate with their neighbors in provid-



An agricultural official at work on his farm.

Ancher Nelson, Administrator of the Rural Electrification Administration of the United States Department of Agriculture, poses with one of his Holstein cows on a visit to his home farm in Minnesota.



ing for local peace officers and courts, and in setting up and maintaining roads, schools, and churches.

Most of the settlers were able-bodied young men, who came alone or with a wife and small children. This was one reason for their self-reliant and independent character. They seldom brought other family members with them. Elderly people and physically handicapped people were rare among the early settler groups. The settler group itself was therefore highly selective as to age and physical condition as well as to the wish to get away from home. This continued to be true as the frontier expanded westward. Most of the elderly people and better satisfied young people remained behind. It was the restless and nonconforming young people who went to the frontier. Tradition therefore was not very powerful. The frontiersman was free to make choices. He was not inhibited from doing things in new ways; on the contrary, his situation encouraged him to do so.

Family life on the frontier, or on a solitary farmstead in the open country even in the oldest settled areas, has been markedly different from what it is in the traditional village of the Old World. Let's see, for example, what happens when some special need arises. When the village dweller needs some carpentry work done, he turns to the carpenter family, and so on with the other specialties. Not so on the frontier or solitary farmstead. Many things that need to be attended to from day to day have to be done by the farm family itself. It would take too much time to bring in one craftsman after another as they are needed, even if they could be found locally. The result is that the United States farmer and his family have been their own peace officers, their own veterinarians, their own gadget makers.

The natural inventiveness of people was thus stimulated. And a tremendous emphasis was put on the single-generation family—a man and his wife and children. The wife and mother on the frontier and in the solitary farmstead has occupied a place of importance along with her husband in the management of the family affairs. There are many monuments of pioneers in the United States, and they often feature the

frontier woman. In such a family, self-reliance is also expected of the children.

### *Diverse Backgrounds of the People Have Encouraged Tolerance*

The independence of the United States farm family was also stimulated by the fact that the people came here from many parts of the world. Most of the early white settlers were from England and other countries of northern Europe. As time passed, migrants continued to come from these countries; but greater numbers began to come in from central and southern Europe. In recent decades some people have come here from Asia. And until the early part of the 19th century considerable numbers of Africans were being brought in as slaves. In addition to all these there were the American Indians, probably of Asiatic origin, who were scattered thinly over most of the country at the time European settlement began.

There is hardly a people in the world that is not represented among the people of the United States. There are evidences on every hand of the varied backgrounds of the people. In architecture we see the influences of the English, French, Spanish, Moorish, and Byzantine civilizations. The poetry of rural America, too, came from many peoples, as did many of our songs and children's games, religious practices, and folk festivals.

The differing backgrounds of the people have contributed to the independent character of the people, and to the development of tolerance. This has been especially marked among the various white nationality groups. As many nationalities were represented, no one nationality pattern could become dominant. At first, people who had a different background were kept apart to some extent by differences in language. But gradually all groups began to rely upon the English language as the best means of making themselves generally understood. This was because the English settlers were more widespread among the early colonies than any other one language group. Despite the general acceptance of a common language, some nationality groups retain certain preferred ways of doing things.

With people coming in as settlers

from many parts of the world, there are now comparatively few homes in which the ancestors of the husband and wife had come to this continent from the same country. The emergence of distinctive ways of doing things might be expected when the father is of one nationality background and the mother of another. Naturally in the solitary farm home, with the father and mother on generally equal terms, there would be a tendency for compromises to occur, and for neither tradition to prevail entirely. Practices compounded from both of them would be worked out. The very diversity of the people resulted in the emergence of new family customs and new community traditions. This situation encouraged the children to think for themselves.

The same thing that occurred within families also occurred within the young Nation among the original thirteen Colonies. At first they were separate and distinct settlements, but the early Colonies soon found it desirable to work together. They could achieve their independence from England only when the Anglican English in Virginia cooperated with the dissenter English in New England, the Quaker English in Pennsylvania, the Catholic people in Maryland, the Dutch in New York, the English Cavalier, and the ex-political prisoner in the Carolinas and Georgia.

The colonists realized that to achieve their common desire—freedom from England—they had to work out a basis of unity that would permit each group and each man to worship as he pleased, to say what he thought, and to have meetings whenever he wished. It was out of this situation, among families who lived in solitary farmsteads in the open country and among the colonial groups up and down the Atlantic coast, that there arose the basic principles of freedom of worship, free speech, and assembly, and the making and enforcement of laws by officials elected for short periods of time, usually 2, 4, or 6 years.

The distinctive quality of the United States as a nationality rests upon the recognition that diverse backgrounds can make contributions toward the development of a culture without any one of the contributing cultures becoming dominant. This country has been called the melting



pot. Another concept is that each United States citizen is a tiny part of a great human mosaic.

### ***U. S. Farmers Organized for Mutual Benefit***

From the colonial period forward, families living near each other began to trade work and otherwise cooperate informally. Frequently such households managed to get some cash by selling furs, tobacco, farm animals, or surplus wheat and corn.

Labor-saving machines helped bring about a shift of a larger proportion of the population to urban areas. Farming gradually became more nearly a commercial business although at uneven rates over the country.

Farmers with things to sell found common interests in prices, freight rates, and markets. They began to join together into organizations to find solutions to common problems.

The resultant farm organizations worked with the State legislatures or the National Congress to provide farm-to-market roads, free rural delivery of mail, favorable interest rates for farm credit, rural electrification, public support for vocational agricultural education and research, cooperative enabling acts, and similar legislative causes.

Some of the earlier farmers' organizations achieved considerable strength in limited areas or in special fields of activity. Those with general objectives sometimes endured for a considerable period.

The Farmers' Alliance of the late 1800's, a federation of several groups, grew into a political movement, the Populist Party. This party had a limited success and then declined, but some of the things advocated by the Populists have since become law.

The short-lived Farmers' Holiday Association was set up by formerly prosperous farmers in the Midwest in the early 1930's to achieve a "holiday" in the forced sales of depression-distressed farms, and as a protest against other economic disparities.

### ***There Are Three Strong General Farm Organizations***

There are now three principal farmers' organizations—the American Farm Bureau Federation, the National Grange, and the National



**Group of farmers gathered to discuss starting a cooperative.**

At small informal meetings like this, farmers often get together to discuss national farm legislation or to plan self-help projects. If farmers don't like legislation that is proposed or has already been passed, they let their Congressmen know what changes they want. Congressmen listen carefully, for they need farmers' support.

Farmers Union. These have local or area units in which farmers hold direct membership. In addition, there is the National Council of Farmer Cooperatives, to be discussed in the next section.

The three direct-membership organizations are free, independent, dues-supported organizations. A farmer may join a local unit or not, as he chooses; and he may join the one or ones he selects. The three are in direct competition for farmer members. They represent broad cross sections of farmer opinions. Because of this, their leaders are listened to with respect when they speak upon legislative and other matters affecting the welfare of farmers. At times, these three organizations may work together to achieve common aims. At other times they differ, for they are free to express varying viewpoints in the same way their members are free to express personal opinions.

On foreign policy they are largely in agreement. They favor strengthening the United Nations and promoting international trade. Leaders of the three general farm organizations—as is also true of the National Council of Farmer Cooperatives—advise and consult with United States delegations to the United Nations and with officials of the Food and Agriculture Or-

ganization of the United Nations. They also cooperate with United States Government agencies in bringing agricultural technical assistance to other countries. They are all members of the International Federation of Agricultural Producers.

The American Farm Bureau Federation was organized in 1919 as a federation of State farm bureaus, which were already active. Its strength lies in the 3,100 county farm bureaus in 48 States and Puerto Rico, with a total membership of about 1,600,000 families. The largest State farm bureaus are in Illinois, Iowa, Indiana, New York, Kentucky, Alabama, Kansas, Michigan, and California.

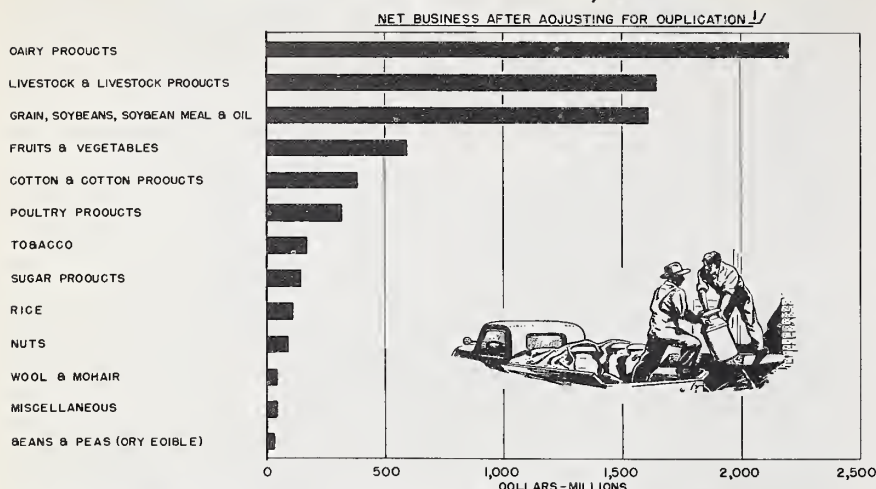
The American Farm Bureau Federation states that its objectives are a rising real income for farm families and better rural community life, under a free-choice system in a world at peace.

The farm bureau devotes much effort to the careful development of agricultural, national, and international policies—and to obtaining action in line with these policies, through self-help by farmers themselves, or through legislative or administrative action.

State farm bureaus sponsor marketing and purchasing cooperatives.

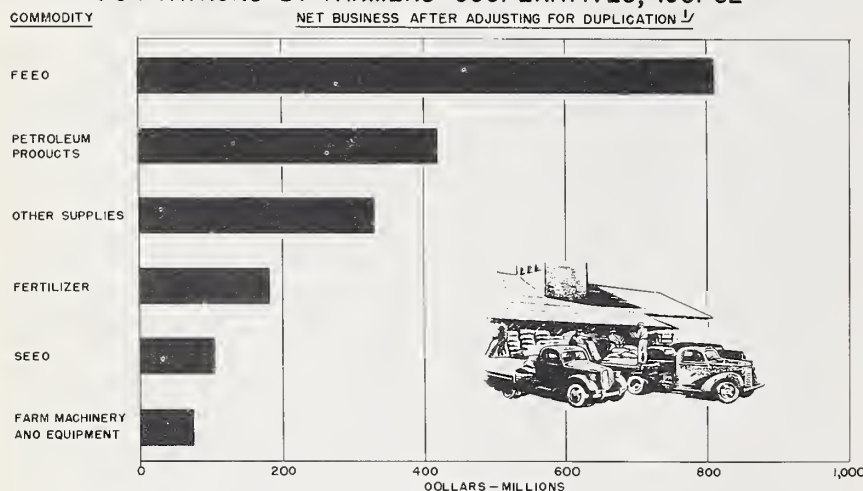


## ESTIMATED MARKETING BUSINESS OF FARMERS' COOPERATIVES BY SPECIFIED COMMODITY GROUPS, 1951-52



SOURCE: FARMER COOPERATIVE SERVICE, U. S. DEPARTMENT OF AGRICULTURE  
1/ REPRESENTS VALUE AT THE FIRST LEVEL AT WHICH COOPERATIVES TRANSACT BUSINESS FOR FARMERS  
DOES NOT INCLUDE TERMINAL MARKET SALES FOR OTHER COOPERATIVES

## ESTIMATED VALUE OF MAJOR SUPPLIES PURCHASED FOR PATRONS BY FARMERS' COOPERATIVES, 1951-52



SOURCE: FARMER COOPERATIVE SERVICE, U. S. DEPARTMENT OF AGRICULTURE  
1/ DOES NOT INCLUDE WHOLESALE BUSINESS OF FARM SUPPLY COOPERATIVES WITH OTHER COOPERATIVES

They offer many services to members, including insurance.

The National Grange has 7,200 subordinate granges in 37 States, with approximately 860,000 individual members. It is a family organization, with women and children taking part as actively as men. It is generally strongest in the eastern dairy areas and the far Northwest. The biweekly meetings of the local chapters are accompanied by a ritual. Following this there is a lecture or discussion on farming, homemaking, community improvement, the relation of farming

to national affairs, or, more recently, on international affairs.

The Grange, organized in 1867, is the oldest general farm organization now functioning. It has long sponsored farmers' cooperatives. It worked for years to get legislation which would bring about adjustments in freight regulations to benefit farmers, would take farm research findings direct to the farmer and provide for teaching agriculture in schools and colleges, improve credit facilities of farmers, and encourage soil conservation. The Grange believes

in community service. Subordinate Granges beautify public property, equip volunteer fire departments, sponsor agricultural fairs and soil conservation demonstrations, or improve recreation areas.

The National Farmers Union in April 1954 had 250,000 farm families as members. It is strongest in the area west of the Mississippi River, but has been expanding eastward, especially since 1952. The Farmers Union puts emphasis on the economically adequate family farm. It sponsors many cooperatives for serving farmers. In legislation, this organization is active on both State and national levels. It endeavors to get action in the State legislatures on rates and types of taxation, public utility rates, and related matters it feels will benefit farmers. The Farmers Union describes its objective as working for "the security of the family farm in an economy of abundance—secure as to tenure and as to income."

### *Farmers' Cooperatives Are Active in Every State*

In colonial times a few farmers joined together to meet their marketing, purchasing, and other business problems. In later years the general farm organizations encouraged such activity. One of the first efforts of the early farmers' cooperatives was to provide good quality seeds at more economical prices. They contracted with farmers to produce certain seeds in quantities and then applied tests to be sure of the quality of the seed before it was sold. This provided farmers with good seed at reasonable prices. Generally speaking, the well-established seed firms that were not cooperatively owned also improved their marketing procedures and benefited by the competition with the cooperatives.

There is a similar story in connection with fertilizers. Cooperatives built their own factories to produce fertilizers and to prepare flexible fertilizer formulas for specific farming situations. They instituted the practice of "open formula" fertilizer—that is, labeling each sack with a card stating the ingredients and the percentage of each. In time, this practice became general. It has been required by law in many States, thus

enabling farmers to buy fertilizer more scientifically. After the cooperatives had set an example in this field, many other firms adopted the practice of full labeling.

Low prices for farm products in sections remote from consuming centers made farmers realize the need for organized marketing arrangements. From 1900 roughly until about 1925, there was a widespread growth of marketing cooperatives to handle livestock, dairy products, fruits and vegetables, tobacco, cotton, grain, and other crops. As agriculture has become more mechanized and commercialized, purchasing cooperatives have increased in number and size. By now, about 3 out of 5 of the Nation's farmers belong to one or more cooperatives. Over 10,000 farmer cooperatives market and purchase for farmers, with a combined total net business of nearly \$9.5 billion for 1952-53.

Most of the cooperatives are local in character, but some are regional cooperatives of federated and centralized types. In most farmer cooperatives, each member has one vote. Members exercise control through the directors they elect.

These cooperatives market all kinds of products, furnish many of the services farmers need to run their business, and handle most of the various kinds of supplies they need. Dairy products are first in dollar value among the commodities sold by farmers' marketing cooperatives. Other important commodities sold by cooperatives are grain, and livestock and livestock products. The dollar value of the cooperative marketing business is more than three times as great as the cooperative purchasing business.

Feed and petroleum products make up nearly two-thirds of the business of the purchasing cooperatives, with fertilizer and seed next in value. Many cooperatives handle machinery and household equipment. Many also operate feed, fertilizer, or petroleum plants to produce the finished products farmers require.

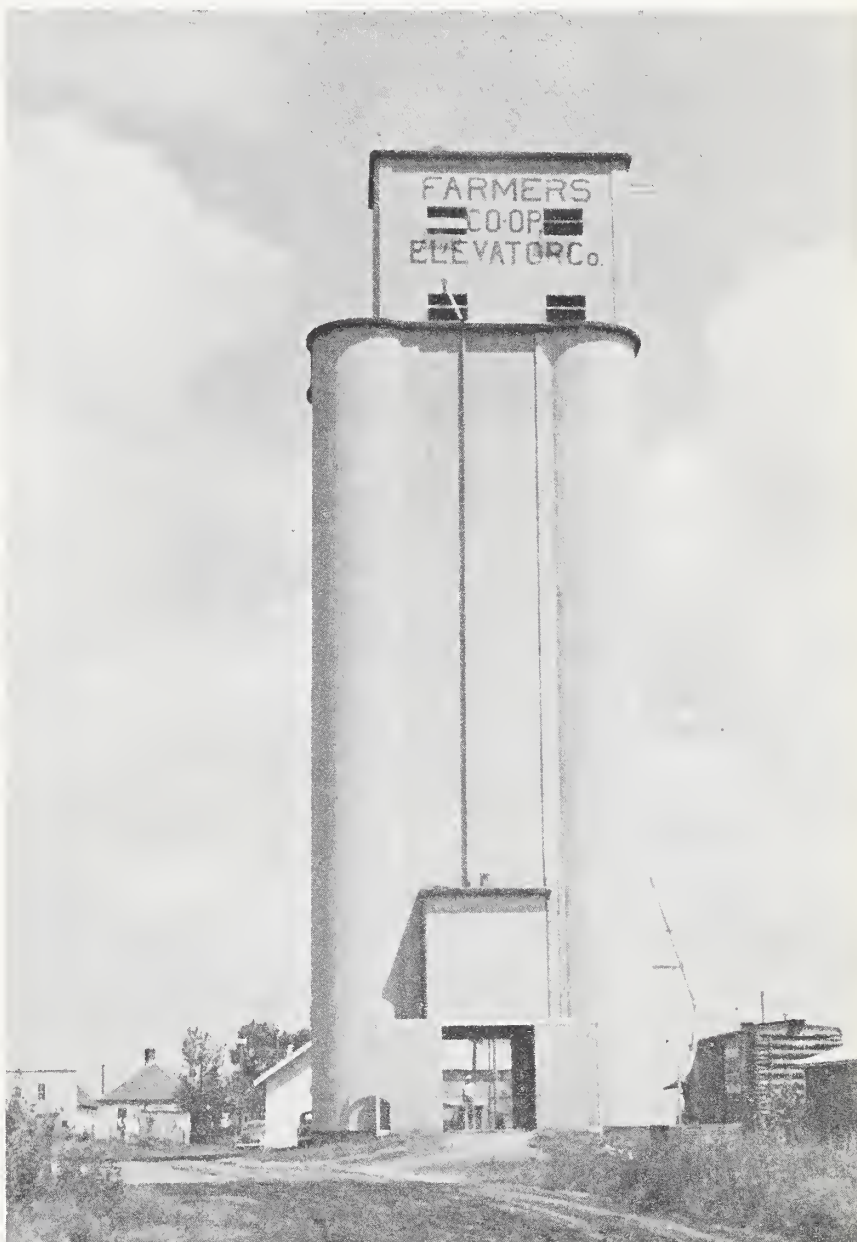
In addition to the 10,000 farmer cooperatives mentioned above, a large number of cooperatives provide farmers with such services as insurance, credit, irrigation, telephones, electricity, medical care, livestock and seed improvement, artificial breeding, grazing, farm and forestry management, pest control, soil conservation,

and other aids to the operation of their farm business.

The farmer cooperatives are serviced in their general educational activities by several national organizations. The National Council of Farmer Cooperatives has 116 member organizations, which are farmer-owned and farmer-controlled marketing and purchasing associations serv-

ing about 3 million farm families. This is a majority of the farmers belonging to cooperatives.

The council assists cooperatives in deciding upon general policies and in legislative matters. It works to keep farmers informed of current developments of importance to them and to promote understanding between cooperatives. In many States, coopera-



A cooperative grain elevator.

A farmers' cooperative is a business organization set up and controlled by farmers. About a fifth of the farm products in the Nation are now marketed cooperatively, and a somewhat smaller proportion of farm supplies is bought through cooperative channels. Other cooperatives process farm products and serve farmers in numerous ways. Cooperatives are on the increase.



tives have organized State councils or associations which work closely with the National Council on mutual problems.

The American Institute of Cooperation has about 2,000 member associations. First organized in 1925, it began to hold annual sessions at land-grant colleges. Since 1946, when the institute was reactivated, its program has been on a year-round basis. The annual meeting continues to serve as an important information clearinghouse for members and officials of cooperatives, extension service and land-grant-college staff members, research workers, and others interested in cooperatives.

The institute carries on continuing programs with youth groups, vocational agriculture teachers, and land-grant college and State extension service staffs. It also works with other groups in sponsoring and participating in State and regional meetings of the clinic or short-course types on cooperative problems.

Other important national cooperative organizations are: The National Milk Producers Federation, which does not engage in business but acts as a clearinghouse for its approximately 100 member cooperatives and several hundred submember associations; the National Livestock Producers Association, made up of 22 cooperatives operating on 71 livestock markets; the National Federation of Grain Cooperatives; and the National Rural Electric Association.

Most of the national associations maintain offices in Washington, D. C.

### *Some People Have Not Had Equal Opportunity*

Pioneer self-sufficiency, political independence, and organized activity—this has been the story of the majority of the people, but not of all of them. For at the outset there were indentured servants and Negro slaves, upon whose individual choices and movements there were decided limitations. After a few decades, the

identity of the descendants of the indentured servants was wholly lost, and since then they have been as free as anyone else. The slaves were concentrated in the South, especially on the cotton plantations of the lower South.

The limitations upon the Negro farm group have been gradually reduced since their legal emancipation in the 1860's. Negroes are now finding wider opportunities than ever before for earning a livelihood, as they become more dispersed over the country and as more of them move into urban areas. They are getting a better education as more of them leave the farms and move outside the South and as their schools in the South are improved. They are receiving more political consideration as they participate increasingly in elections in the South and in the Northern and Eastern States, to which they have migrated in greatest numbers. Sharecropping has decreased in response to more farm mechanization and more livestock farming, and fewer Negro women are now working as low-paid domestics, for urban business and industrial jobs have become more available to Negro men and women.

Many people, white and Negro, have for many years worked through religious, educational, and civic organizations to improve the living conditions of Negroes and of other minority groups. They carry out these purposes through educational and legal means. This approach has been productive because of the basic democratic values held by the people at large, and because of the fundamental laws of the Nation, which are designed to assure equality of opportunity and freedom to all citizens. These activities, however, have not afforded convincing improvement to all elements of the Negro population, particularly those who live in urban slums and in some rural areas where there is little opportunity for organized efforts along these lines. So the handicaps for a considerable proportion of the Negro group remain great. But, broadly speaking, the American Negro is more independent now than earlier; and he is gaining new rights and privileges from year to year.

The situation of migrant workers in America has been discussed widely



A Mississippi Negro farmer looks at his new FHA house across the field.

In the past two decades, more than a million low-income farmers have been helped to better farming, greater production, and more satisfactory living through the supervised loans of the Farmers' Home Administration. About 80,000 families have become farm owners through long-term ownership loans. Nearly half of these loans have already been paid off in full.

during the last few years. Their living conditions have often been bad, as families have moved from work in one seasonal crop to another. Health and education of growing children have often been neglected. The admission into the United States of farmworkers from nearby countries has been criticized by organized labor and other groups.

In 1951 a Presidential commission finished an investigation of the problems of migratory farm laborers, giving special attention to the use of Mexican seasonal workers. The report of its findings included a number of specific recommendations for improvement of the situation. This development offers some hope also to domestic nonmigratory workers, for the role of Presidential commissions in the United States has been of real importance in agriculture. For example, the American Country Life Commission of 1908, appointed by President Theodore Roosevelt, stimulated early soil conservation work and farm credit activities. The Farm Tenancy Committee of 1936, set up by President Franklin D. Roosevelt, drew attention to problems connected with tenancy and made suggestions for measures to alleviate them.

Another problem in American agriculture is the many farmers who have low incomes. Low farm incomes center around low production per farm and lack of opportunities for earning wages elsewhere. Low production per farm may be caused by one or more of

such things as unproductive soil, too little land, inadequate implements, improper use of land or other poor farming practices, lack of human endeavor, and such natural calamities as unseasonable frosts, floods, and droughts.

Low-income farm families are prevalent here and there throughout many parts of the country. They are most numerous in the Appalachian and Ozark highlands, in the cotton country where so many work on plantations or where there has been severe soil erosion, and in the semiarid Southwest. The low-income farm families in the highlands are practically all white, in the cotton country they are both white and Negro, and in the Southwest they are largely American Indian and Spanish-American.

An increasing proportion of the low-production farmers have improved their situation within the past several years by doing wage work off their farms. For other low-production farmers, particularly those in localities far removed from chances for off-farm employment opportunities, there seems to be no ready remedy.

The whole matter of low-income families, farm and nonfarm, is now being studied by the United States Department of Agriculture and the National Agricultural Advisory Commission, which was appointed by the President. A number of private agencies are also studying the prob-

lem of low-income families. It is characteristic of the United States that some constructive action is usually taken once a controversial issue has been thoroughly defined and discussed.

The problem of the low-income farmers is old and challenging. Its solution will probably depend upon such matters as better training for children in low-income areas; increased industrial activity to afford more off-farm employment in some areas; supervised credit to permit adjustment to more suitable types of farming; more intensive farming where feasible; and, for some localities, a program to facilitate further voluntary movement of the people to more favorable areas. The low-income farmers' situation has been given further significant attention by special reports prepared recently by the Bureau of the Census and other Government agencies. These reports present more factual data on the subject than has heretofore been available.

Rural United States has its problems. But since the people have the opportunity to express themselves fully, there is little likelihood that any group will allow its basic rights and privileges to be denied for long. A significant thing about the people of the United States is that they have a system that encourages depressed groups and persons to stay busy at the job of improving their lot through economic and political means.



# Agricultural Services Available to Farmers

The farmers in the United States have many agricultural services available to them. These services include long-time and short-time loans, crop insurance, technical and financial aid in natural resource conservation; also crop estimates, economic and other services in production and marketing, weather forecasts, and research findings of the physical and social sciences; forest protection and management assistance, rural electrification service, cooperative agricultural extension work, and vocational training in agriculture.

Before discussing the source and organization of these services, we shall see how they reach the farmers.

## *How Agricultural Services Reach the Farmer*

Naturally, the agricultural services that are of most immediate value to the farmers are those that help them in their everyday farming. When a farmer gets up in the morning and looks out over his farm, he may see evidences of agricultural services. If he had a swampy place on his farm, he may have drained it with the technical assistance of an agricultural specialist and a loan insured by the Government. Or he may have built a livestock barn from plans drawn up by the State agricultural college. He may have obtained a loan from a public agency to develop a water supply for his livestock. If he has a mortgage on his farm, he may have arranged for it through a local bank, or through a Government-sponsored credit cooperative.

In deciding what to produce, the farm family may use information furnished by Government agencies. In planning production for the year, the farm family considers, of course, its buildings and equipment, the soil types on the farm, and its own experience with certain products. But it also considers the market outlook, which may be affected considerably by Government farm programs. Farmers discuss these programs with

their neighbors and are aware that overall national and international conditions affect the market outlook for farm commodities.

Farmers turn readily to the local representatives of the agricultural agencies. Information about markets, improved agricultural practices, and farm programs in general is available in the vocational agriculture department of the local high school, the county offices of the Cooperative Extension Service, and in the county or district offices of other agencies or services with local programs.

Suppose, for example, a farmer has bought a piece of rolling land where years of row-crop farming have caused much of the topsoil to be washed away. This farmer may talk with the county extension worker, or "county agent" as he is called, about the cropping systems and management of the land. The county agent may refer him to the local soil conservation district for help in controlling the erosion. Or the farmer may already have asked the district for help on this part of his problem. (Soil conservation districts are units of State government, organized under State laws by the landowners living in them.)

On the request to the soil conservation district, a Soil Conservation Service technician will make a conservation survey to determine the most intensive use that can safely be made of the soil. The technician and farmer will then go over the land together and discuss the conservation problems. The technician will help the farmer develop the kind of conservation program that he needs.

The conservation plan probably would include a combination of conservation practices—planting grass on the land not suited for cultivation and contour farming and the building of terraces and grass waterways on the land to stay in cultivation. The technicians serving the district (usually provided by the SCS) will lay out the terraces and contour lines and provide other technical conservation aid. The farmer hires the construction work done or does it himself. The soil conservation district may have special equipment the farmer can rent, or he may use his own equipment. That equipment may be a tractor and blade, or even mules and a scoop.

In most counties, the cost of this kind of project will be shared by the Federal Government through its agricultural conservation program. The Soil Conservation Service and soil conservation district will continue to aid the farmer as long as needed to apply the conservation plan. The aid of the county agent on farm management, cropping systems, market-



The county agricultural agent visits a farm family.

The county agricultural extension office is staffed by an agricultural agent, a home demonstration agent, and often one or more other workers who specialize in 4-H Club work and other specific projects. Farmers often go to the extension office in the county-seat town. The agents also go out to the farms.



ing, and home affairs is a continuing job.

A farmer who wants technical assistance in handling his woodlot may consult one of the farm foresters who are available in most States to give on-the-ground forest management assistance to individual small woodland owners. There are about 270 farm foresters employed by the States in cooperation with the Forest Service of the United States Department of Agriculture. Each forester has from 3 to 5 counties in his project area, and a total of about 1,300 counties now have such service.

The farm forester will make a simple management plan for the farmer, covering such operations as timber cutting, planting, thinning, pruning, and protection from fire, insects, and grazing, and giving consideration to the betterment of wildlife in the woodland, and the control of erosion and floods. He works with the owner, marking the trees to be cut, helps estimate the volume, and advises on marketing the products.

### ***State Government Agencies and Federal-State Cooperation***

Some of the services available to farmers are provided by State governmental agencies, some by Federal governmental agencies and some by private industry. In each State there is a department of State government serving agriculture. The names and functions vary between States but usually it is called the State department of agriculture and much of the work is in the enforcement of State regulations concerning sanitation, livestock diseases, and many other phases of agricultural production and marketing practices. This agency also has a very important role in the work performed in the State under Federal-State cooperative agreements covering market information, inspection and grading, regulatory work, and other marketing service activities.

Generally there are other departments of State government that provide additional services in the field of conservation of natural resources.

Often the problems requiring services are problems that cross over State lines. Farmers in one State need information on production, marketings, and price data from other States; research findings obtained in one State may be applicable in many

States. The basis for cooperation arises from a common interest in these fields. Ordinarily the State agency is well aware of local conditions and can follow through on the educational work needed to introduce new farming practices. For these reasons it has been found to be mutually beneficial to enter into Federal-State cooperative agreements, with each agency agreeing to contribute certain funds, personnel, or facilities in order to achieve a common goal. Under the United States Constitution, the Federal Government can exert no compulsion on the States to participate in such agreements but the States find it to their advantage to do so.

### ***Land-Grant Colleges and Experiment Stations***

An important example of Federal-State cooperation is the "land-grant college" system. The State agricultural colleges are called land-grant colleges because they were first established by grants of land from the Federal Government to the States for the purpose of teaching "agriculture and the mechanic arts."

These colleges have been called "America's one unique contribution" to the long tradition of higher education in the Western World. The system was started in 1862 by Federal legislation resulting from wide popular pressure for a higher education more suited to the needs of people from all walks of life and all regions of the country. Until that time, colleges and universities had been largely modeled after European universities of the time, and were quite limited with respect both to the number of students who could enroll, and in their treatment of such practical subjects as research in improving the condition of living and of farming.

A land-grant college may be either a part of the State university or a separate institution.

Many of them are now large educational institutions having departments of liberal arts and other subjects, in addition to agriculture, home economics, and engineering. Agriculture remains important, however, and it is usually in these institutions that young people receive the college training that equips them to

serve as county agents, research specialists, vocational agriculture teachers, and professional workers in other fields of agriculture, as well as training for farming.

In each State, a State agricultural experiment station is a part of the land-grant college system and is usually located at, or near, the site of the college. It usually has branch stations in each of the principal type-of-farming sections of the State, to assure practical testing and adjustment of research findings to local soil and climatic conditions.

Many students of agriculture help in some phases of the college farm-work. Most land-grant colleges, for example, have herds of dairy cattle. Some students help in the care of the cattle. They may measure and record the milk and butterfat production of each cow and keep an account of the quality and quantity of feed used. In his regular college courses, a student studies the physiology of the cow, its nutritional requirements, diseases, and so on. Thus theory and practical experience are both provided for in his courses of study.

If he is not planning to be a farmer himself, but a county agent or a teacher of agriculture, the student will also have courses on how to present clearly to farmers the methods of farming that have been worked out at the experiment station. Thus he will have been trained in the three phases of work at the college and experiment station: Research (discovery of new things), teaching (classroom training of professional workers and farmers), and extension (carrying the new methods out to the farmers on their farms).

The dean of agriculture at the land-grant college may be the director of the experiment station; he may also be the State director of the cooperative extension service. Whether or not these offices are held by the same person, the cooperative extension service usually has its headquarters at the agricultural college and its director always has the status of a member of the college faculty.

The extension service helps to bring the research results of the land-grant college and the Department of Agriculture directly to the farmers and the farm families. Under a cooperative agreement between the State land-grant college and the United



States Department of Agriculture, it has a certain responsibility to the Secretary of Agriculture at Washington for this work.

The colleges and experiment stations receive financial support from the State legislature out of State tax funds, and additional funds from the Federal Government.

Private industry is interested in the work of the land-grant colleges and experiment stations. Some of the larger companies that process agricultural products or service agriculture give scholarships to prepare young people in their lines of work. Some companies make grants for specific research projects in which they are interested.

### ***Many Agricultural Extension Methods Are Used***

The Cooperative Agricultural Extension Service was created to bring the farmer into closer touch with the discoveries, inventions, and improved methods that are constantly being found through research and experimentation, particularly those of the United States Department of Agriculture and the State agricultural experiment stations. This agency is also concerned with the all-round development of rural people through work, recreation, social life, and experience in leadership.

Most counties employ at least one man and one woman as extension

workers (the county agent and the home demonstration agent). Recently funds obtained from the Federal Government and other sources have made it possible in many counties to employ an assistant county agent to help farm families do a better job of farm and home management through the "farm and home unit" approach. This method deals with the problems of farm families as a whole; through consultations with individual families or small groups, extension workers help families recognize and analyze their problems and opportunities, and to plan and carry out sound systems of farming and homemaking. Many counties employ additional extension workers for special programs with farm children's clubs and older rural youth groups. In the South many counties employ both white and Negro extension workers. There was a total of 12,670 cooperative agricultural extension workers employed throughout the country in 1954.

The county agent serves an area averaging about 1,000 square miles (nearly 400 square kilometers). The average county has about 8,000 farm people, but there are great variations in area and population of counties.

In planning their work, extension agents have the counsel of a committee of farm men and women who are elected at an annual county meeting of farmers and their wives. The agent brings to the committee's attention program suggestions from the State college that he considers especially important. This county committee decides what subjects will be featured by the agent during the year. Some of the educational methods used are demonstrations, farm and home visits, illustrated lectures, discussions, exhibits at fairs, group meetings, newspaper articles, letters, publications, camps, automobile tours, motion pictures, radio and television programs, and sometimes plays and pageants.

The State director of extension and his staff keep in touch with the county agents and coordinate their work with the research going on in the college and at the State experiment station. They usually conduct short courses for farm people each year on the college campus. The courses may last



**Land-grant college for the State of Maryland.**

Each of the 48 States has a land-grant college, so called because it was established by a grant of land from the Federal Government. The people look to the college to train youth in a wide variety of technical skills, including scientific agriculture. Practical research in agriculture is carried on in experiment stations and is made available to farmers through bulletins, short courses, and farm and home weeks on the campus.

2 days or 2 weeks, or even longer. They devote attention to one or more of such specific subjects as feeding livestock, treating livestock diseases, marketing fruits and vegetables, and the scientific use of insecticides. Short courses for farm mothers center around such subjects as preparing meals, preserving foods, making clothes, child care, and farm-site beautification.

The Extension Service operates on the theory that farm people—both children and adults—learn by doing. Under the guidance of the agents, farm adults or youths may grow a new crop or feed an animal a scientific diet, or prepare a balanced meal. They may take part in a meeting, act as chairman of a committee, or collect information and help to interpret it. Or they may observe and take part in the operation of a cooperative buying and marketing association, cooperative creamery, or other rural organization.

Community development or improvement through the efforts of community clubs or organizations is not new in the United States, but in recent years the number of such groups has increased rapidly, especially in the Southern States. The formation of a community club or organization is brought about by the efforts of the people themselves, usually under the leadership and assistance of some county agency, very often the Extension Service.

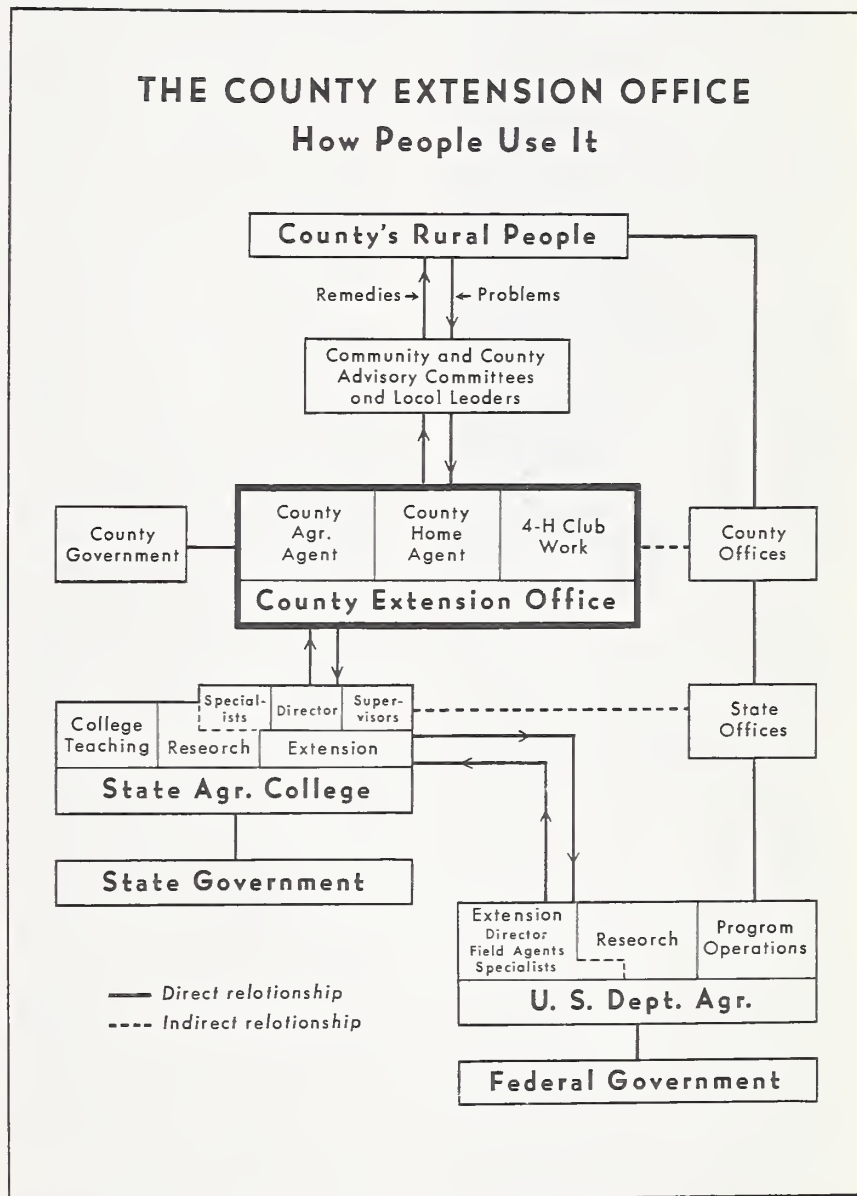
The membership of such a club or organization is representative of all agencies and groups in the community, both public and private. A community plan of work is developed and the skills and resources of all agencies and groups are available to develop the projects outlined. The community approach to extension work and other phases of work has proven very effective.

Suppose, for example, the suggestion is made to a county extension advisory committee that the local farmers need especially to improve their pastures. The suggestion may have come from the State college of agriculture, or from the county agent, or from local farmers who are progressive in their methods. The committee may decide that demonstrations of how to plan improved pastures would be instructive.

The county agent will then talk about the demonstration plan around the county and perhaps enlist the cooperation of workers in other organizations such as the Soil Conservation Service and the "Agricultural Stabilization and Conservation Committee" (described in the next

section). Perhaps merchants will contribute the kinds of fertilizer and seed that are needed for the demonstration. Some local farmer usually offers the use of appropriate machinery.

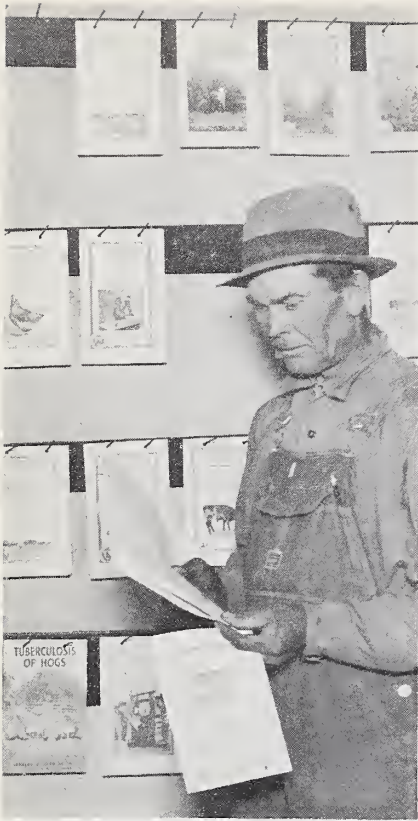
A plot of land near a road will likely be chosen. The date set for the



#### Cooperative Agricultural Extension Service.

The county extension agents are joint employees of the county, the State land-grant college, and the United States Department of Agriculture. The agents are teachers of improved farming and better home living. Their classrooms are the farms and farm homes of the county; they have activities for men, women, and youth. The county extension program is worked out cooperatively between the county agents and committees made up of farmers and homemakers. They carry on their work through demonstrations, group meetings, personal visits, letters, bulletins, news articles, and radio talks; they train and use local leaders in their activities. The agents take research findings to farm people, and they carry back to the research specialists the unsolved problems of the farmers.





**A Georgia farmer looks over the bulletins in the county extension office.**

In the county extension office, a wide range of farm bulletins is available without charge to farm people. The bulletins are prepared by specialists in agricultural research and extension in the State experiment stations, the land-grant colleges, and the United States Department of Agriculture. Almost anything a farmer wants to know how to do is explained in a free bulletin.

demonstration is announced at community gatherings throughout the county and over a nearby radio station. Notices are carried in the local newspapers describing the methods to be used and the reasons for them. An invitation may be sent from the agent's office to each farm home in the county.

On the day named, farmers come from many parts of the county, and perhaps from beyond to see the machines prepare the soil until the seedbed is ready. The farmers watch how the seed is sown and covered; they listen to the explanation, and ask questions if they wish.

In the following weeks the people watch the demonstration tract as they ride by it from time to time. They read the sign that gives the date of the sowing and the type of

seed and fertilizer used. If the plot becomes fine and green as the months pass and if the cattle grazing on it later look vigorous, many farmers may try the same methods on their own lands the next year or later.

The home demonstration agent works with groups of farmers' wives in regular club meetings. She adapts her program to the needs and interests of the group. At a meeting a member may demonstrate how she prepared vegetables for the home freezer. A visitor may show how to put new upholstery on an old chair. Other programs feature good nutrition, meal planning, cooking, dress-making, and home decoration.

Farm boys and girls are similarly taught, by doing, through the 4-H Clubs. These are groups of farm boys and girls between the ages of 10 and 21 years, organized into clubs by the Extension Service agents. Each club has the advice of an adult, usually a local farmer or homemaker, known as a voluntary local leader. The clubs elect officers and conduct their own meetings.

Each member must carry on a piece of farming or homemaking, known as a project, on his parents' farm or in the home, must keep an account of his work and the results, demonstrate his methods to the club, and may perhaps exhibit the result at community or county fairs. Popular projects are raising poultry, calves, or pigs; conservation undertakings, preparing meals, making clothing, refinishing furniture. The name "4-H" is derived from the four types of training the young people receive, that is, training of head, heart, hands, and health.

The county agents not only bring new methods and research information to farmers. They also pick up ideas from farmers and pass them on to other farmers and to research workers. If they do not know the answer to a farmer's questions, they usually know where to find it.

### ***ASC Committee System Reaches Each Farm Community***

In addition to the county agents, with offices in every agricultural county, there is a system of committees through which farmers in every agricultural community participate in certain action programs of the Gov-

ernment. In each community (a smaller administrative area within the county), a community committee of three farmers is elected annually by direct vote of the farmers. The chairmen of the committees for the various communities within a county, in turn, elect three farmers to form a corresponding county committee. The committees are known as Agricultural Stabilization and Conservation Committees (ASC Committees) because their chief function is to carry out the Federal Government's responsibilities to farmers under the Government's agricultural conservation program and its production adjustment and price-support programs. The county agricultural extension agent, unless he is selected as secretary to the county committee, is ex officio a member of the county committee without the right to vote. The county committees have responsibility within their respective counties for policy decisions on the programs mentioned. They have county offices; an office manager and other personnel are employed to perform needed field work and to carry out the policy within the county.

The work of the ASC County Committees is supervised by State ASC Committees, each made up of 3 to 5 leading farmers in the State, and appointed by the Secretary of Agriculture in Washington, D. C. Membership is rotated by replacing one State committeeman each year. The State committees give policy direction to the programs at the State level. They employ State administrative officers and staffs of personnel stationed at the ASC State offices. The State Director of the Extension Service is ex officio a member of the ASC State Committee. Thus educational and direct action programs are coordinated.

The entire system of ASC Committees is under the administrative direction of an officer of the Commodity Stabilization Service, an agency of the Federal Department of Agriculture.

### ***Many Conservation Services Used by Farmers***

The conservation services most used by farmers are cost sharing by the agricultural conservation program, technical help from the Soil Conservation Service, and water facilities and conservation loans from the



**Farmers' Home Administration.** These, and the work of the Forest Service, form the front line of the United States Department of Agriculture's conservation effort.

Through the agricultural conservation program, the Federal Government shares with farmers the costs of conservation practices needed on their farms. Such cost sharing gets more enduring conservation than would likely be possible were farmers to depend entirely on their own resources. Cost sharing for approved practices through the agricultural conservation program has helped to give farmers extensive experience with soil conservation for longtime benefits. The assistance under this program usually amounts to about half of the cost of carrying out the practices approved for assistance. The remaining costs of these practices, as well as the costs of other practices undertaken by the farmer, are paid by the farmer himself.

Cost sharing is provided through the offices of the ASC County Committees described above. The ASC County Committee, working jointly with the local representatives of the Soil Conservation Service and the Forest Service and others, decides which approved conservation practices will be eligible for cost sharing in the county and also the rates at which costs will be shared. This committee also decides how to divide the county's cost-sharing funds among the farms which seek help.

The county committee develops a program of conservation practices needed locally which would not be so generally carried out without the financial assistance provided by cost sharing. These practices are generally, but not exclusively, taken from a national list of approved practices. The most needed conservation practices vary by areas of the country. In the humid areas, the most needed are those which control water and which help in establishing improved vegetative cover—such as the use of the best adapted varieties of grass and legumes, the application of lime or fertilizer, and the building of terraces, waterways, and ponds. In the low-rainfall areas, the need is for control of wind erosion, and for water storage and irrigation.

Until a few years ago little broad public attention was given to soil

erosion and depletion, and to managing farm woodlots in this country. The abundance of new land throughout the early history of the Nation caused most people to regard the soil and timber as inexhaustible resources. Recent years have brought changes in attitudes and practices related to use and management of the soil. It has now become governmental policy (as established through various State and Federal laws) to provide conservation services that encourage and help private holders of farmlands and woodlots to manage their holdings for the long-term benefit of all the people for now and the future. To the same end, many private organizations take part in the process of bringing about sound use of the natural resources of the country.

### ***How Farmers and Their Cooperatives Get Needed Credit***

Agricultural credit plays an important role in enabling farmers to adopt production methods, conservation measures, and marketing practices proven by research programs. It also enables many tenant farmers to become owners. Most of the farmers in this country have used agricultural credit of some type at one time or another. This is evident from the fact that the outstanding agricultural credit indebtedness in the United States in January 1954 amounted to approximately 14 billion dollars.

Credit is available to all who own or can rent suitable farms and have reasonable ability to succeed at farming. Two-thirds or more of all credit used by farmers is obtained from commercial banks, insurance companies, and other private lenders. Second in importance is the farmer-cooperative type of credit under the general supervision of the Farm Credit Administration. A third source of credit is the Farmers' Home Administration of the United States Department of Agriculture. The Government makes loans only to farmers unable to obtain adequate credit elsewhere. The work of the Government credit agencies is described more fully in the next chapter. They assist farmers with long-term mortgage loans for the purchase of farms and erection of buildings, as well as short-term production credit loans to be used, for

example, in the purchase of seed or fertilizer. Typical interest rates for long-term real estate mortgage loans would be 4 percent or 5 percent per year, and for production credit loans, 6 percent per year.

Credit is available to farmers' marketing associations and other cooperatives from the Bank of Cooperatives in the Farm Credit Administration, from commercial banks and life insurance companies.

Farmers have been greatly benefited by the Rural Electrification Administration. The REA makes loans to local electric and telephone service organizations. The availability of current from powerlines enables farm families to use modern household conveniences and adopt many laborsaving, money-making farm practices. Electrical devices commonly used for farm tasks include pig and chick brooders, feed grinders, milking machines, de-icers for livestock watering, and many others.



**An Alabama farm girl gets the mail.**

In most areas, mail service is daily except Sundays and holidays. Letters and parcels are delivered in remote areas at the same cost as in the cities. There is a mailbox within a short walk of practically every farm home, and directly in front of many.



## ***Crop Insurance and Price Support Protect Farm Incomes***

In many counties farmers can buy crop insurance to protect their investment in their growing crops against loss from causes that are beyond their control, such as drought, freeze, insects, and disease. This program is provided by the Federal Crop Insurance Corporation and is administered locally by agents of the Corporation.

Crop insurance is available on one or more crops in nearly a third of all agricultural counties. The following crops are insured, with generally only one crop insured in a county: wheat, tobacco, cotton, corn, flax, beans, and citrus fruits. In addition there are nearly 100 counties of diversified production where a number of crops are insured under one "multiple crop insurance" contract.

The insurance protection is against loss in quantity and in quality of production but not against loss in price. The policy insures a specific amount of crop investment. If the farmer produces more than his insured coverage, he has no loss to be made up. If he produces less than his insured coverage, he receives an indemnity check equaling the difference between his insured coverage and his actual production. This enables the farmer to recover his costs but not to make a profit on the insurance.

In addition to the hazards of production, price and market changes may threaten farm incomes. It is not a simple matter for farmers to shape their production to meet market requirements. United States agriculture is an industry that has several million independent operators, each producing according to his own wishes and his ideas of market prospects, which are affected by the domestic and international situation. And his production is always dependent on the weather.

A number of Government programs have been designed to protect farm incomes by helping to stabilize prices. For certain crops, the Commodity Credit Corporation makes loans on the stored commodity at the "support price"—or agrees to purchase the commodities at the support price, provided farmers have previously signed

purchase agreements. Such loans protect farmers from having to dispose of their crops at times when prices are unduly low.

Acreage allotments and marketing quotas are used for some of the major commodities when supplies get materially out of line with demand. Most phases of these operations are locally administered through the ASC offices mentioned earlier, by farmer committees who also provide the inspection necessary to check compliance with allotments and quotas.

The agricultural stabilization agencies are part of the United States Department of Agriculture and their place in the Department is described in the next chapter.

## ***Farmers and Consumers Benefit From Marketing Services***

A factory worker in a city on the east coast of the United States may breakfast on grapefruit, fried potatoes, bacon, eggs, and toast—products of farms in distant parts of the country as well as those nearby. He may drink a glass of milk produced a few miles away or a cup of coffee or tea grown on another continent.

Though farmers in different parts of the country tend to specialize in the products most suitable to the climate and other local conditions, diets everywhere are diversified. These facts, together with the long distances between producing regions and consuming centers, make the job of getting the farmer's product to the consumer more complex in the United States than in many other countries. Several marketing services are provided by the Federal Government, often with cooperation by the States, to help get this job done smoothly and efficiently. Most agricultural products move through several processing steps between the farmer and the consumer. For example, cattle which are raised on grass in the low rainfall area of the West are moved eastward into the Corn Belt and fattened. Then they go to the slaughtering plants, and finally to consumers' markets. Fresh market fruits and vegetables often require long hauls in refrigerated trucks or railroad cars. Some farm products are handled as many as 25 or 30 times between producer and consumer.

Under these conditions the farmer is at a disadvantage unless he has information on the supply, demand, and prices for his product as reflected in distant producing areas and marketing centers. Such information is provided through the estimates and forecasts of crop and livestock production, estimates of stocks on hand, and of prices and supplies in the markets. These information services have reached a high degree of accuracy and timeliness. In the spring when farmers are planning what crops to plant, an "intentions to plant" survey reports on the plans of farmers all over the country. This report is available in time for farmers to alter their plans and plant other crops than originally intended, if this seems advisable. When harvesttime comes, prices of many farm products in principal markets are broadcast daily by radio. Many farmers obtain early morning reports of market trends as soon as they have their produce loaded, and then they send it to the market that seems likely to have the highest prices for the day.

Another factor important in the marketing of farm produce is uniformity of quality. Classes, grades, and standards have been established by various commodity groups and by the Federal Government. When the housewife buys a dozen eggs, she can ask for "Grade A large" or "Grade B medium," and pay a price accordingly. Farmers may arrange individually or through cooperatives to have their produce graded. Often a part of the cost of such services is covered by fees charged to the farmer, and the remainder is paid by the general taxpayer because of the benefits of grading to consumers.

The people of this country are proud of the high standard of honesty that prevails in the often impersonal dealings that take place between producers, processors, buyers, and sellers. This standard is sustained by a system of legislation and regulatory activities that make for quick detection and prosecution in case of fraudulent practices. Such services range from the official testing of weighing scales and containers in local markets to the regulation of speculative activities affecting prices on the commodity exchanges in the great central terminals.



## ***The Farmer's Cooperation Is Essential***

Services of State and Federal research workers come to a farmer in many ways, in addition to those already mentioned. In most States seedling trees can be bought by the farmer at a low price from tree nurseries owned and operated by the State. He can send samples of soils to be tested to learn what kinds of fertilizers he should use. He can get improved crop seed through associations that work with Federal and State agencies. He and his neighbors can get help in organizing an artificial breeding association to improve their livestock.

Farmers participate widely in many of the public agricultural services that have been described. Many of the services, as noted above, are carried on under the guidance of county or district advisory committees made up of farmers elected at an annual farmers' meeting, or by balloting carried on during a day announced well ahead of time.

The farmers discuss farm programs at their meetings of general farm organizations and other gatherings. In addition to congressional authorization, most of the restrictive programs require a special vote by the farmers they will affect, and must draw a two-thirds majority vote before they are put into effect.

Many of the services that reach the farmer are administered on a county basis. Others may be administered through a district made up of two or more adjoining counties, or some larger or smaller administrative unit. In many counties, the farmers now go to the county-seat town more often to take part in agricultural meetings than they do to pay their taxes, attend court, and perform their other traditional public duties.

Often farmers contribute directly to making Government services possible. For example, farmers occasionally receive questionnaires, or more rarely, they may be visited by interviewers, seeking information about crop prospects, farm machinery, wage rates, or other matters. A farmer may fill out the questionnaire and promptly mail it in. Or he may simply throw it away. He is not

subject to any kind of censure or penalty for disregarding it.

Usually the questionnaires are sent only to a small sample of farmers and about a third of the questionnaires sent out are returned with answers. The use of the mails for collecting information in this way is effective and is the least expensive way known. It permits a Government agency to collect a wide range of detailed facts from all parts of the country at the same time.

## ***Many Federal Agencies Serve Agriculture***

The United States Department of Agriculture is the source or coordinator of many of the services discussed above. The development and organization of this Department are outlined in the next chapter of this bulletin (see pp. 67-72).

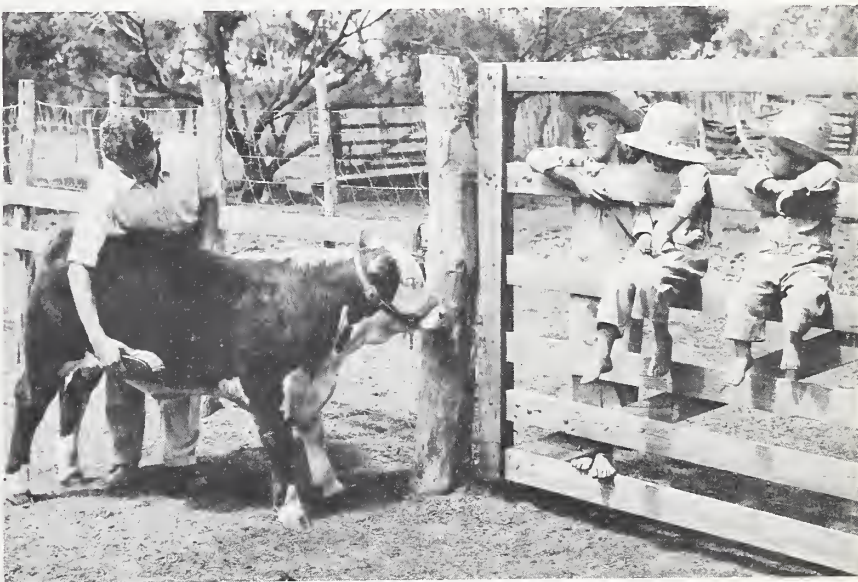
Certain other services related to agriculture, and administered by other departments of the Federal Government, are the following: The Bureau of Land Management of the Department of the Interior is responsible for the management of 500 million acres of Federal lands in the United States and Alaska. Important agricultural activities include grazing, homesteading, cadastral surveying, and title recordation of the millions of acres of land once in Fed-

eral ownership. The rangelands and woodlands are essential parts of ranch economy and watershed management in the West. Agency activities include soil and moisture conservation, revegetation, fire control, forest management, and leasing and disposal of minerals and land tracts for business, residential, and other purposes.

The Bureau of Reclamation, Department of the Interior, builds and maintains irrigation, power, and related water resource development projects throughout the 17 Western States. Dams designed and constructed by the Bureau may be of concrete or earth and range in size from simple diversion structures of a few feet in height to dams of great size with many purposes: Irrigation storage, flood control, sediment retention, municipal and industrial water supply, power development, and others.

The Interior Department is also responsible for programs for the conservation of fish and wildlife, and for assisting the American Indians in making effective use of their lands.

The Department of the Army's Corps of Engineers has an extensive flood-control program, which uses levees, reservoirs, floodways, and channel improvements, to protect more than 800 cities and towns and



**Organized farm youth take pride in their animals.**

A Texas 4-H Club boy grooms his Hereford calf. A few years from now, his admiring younger brothers will have project animals of their own. In 1954, there were nearly 2 million 4-H club members, boys and girls.



around 26 million acres of agricultural land from possible flooding of rivers.

To promote the teaching of vocational agriculture and vocational home economics in the high schools of the United States, the Federal Government allots funds to the States and Territories to be matched dollar for dollar by State or local funds or both. The Federal funds, amounting to about 20 million dollars in 1955, are distributed by the Office of Education of the Department of Health, Education, and Welfare, which also cooperates with the States in administering the program.

### ***Public Schools Are State Supported***

Perhaps the most important service provided to farmers by State governments is the public school system, maintained by all States with State and county tax funds to supply free education to all the children of the State. Twelve grades of school are offered. And where the school is consolidated—serving a large area—free transportation daily in public school buses is usually provided.

There are differences between the States in the amount of money expended per pupil, and between cities and rural areas, and between prosperous and retarded rural areas. Differences also occur in the laws and in the degree of enforcement of the laws that require children to continue in school until 16 or 18 years of age.

The schooling of all pupils from age 5 or 6 through high school is very similar and chiefly concerned with the fundamentals of general education. As the child advances through school, especially in the high school (grades 7 or 8 through 12) increased opportunities are provided for electing instruction with special emphasis upon vocational education, college preparation, commercial training, or other fields.

The vocational agriculture and vocational home economics training referred to above are given in the free public schools, which have special departments for these subjects.

Systematic instruction in agriculture is designed to meet the needs of persons over 14 years of age engaged in or preparing for the work of the farm. Teachers of vocational agriculture are graduates in agriculture

usually from the land-grant colleges. Organized classes are provided for in-school youth, known as all-day classes. In addition, classes are provided for out-of-school young farmers and for adult farmers.

An essential feature of the vocational program is the mandatory provision that each student have a farming program for not less than 6 months of the year. These farm programs are supervised by the teachers. They afford the opportunity for "on-farm" instruction and "learning through doing."

Practically every department of vocational agriculture has a chapter of the Future Farmers of America or the New Farmers of America. Local chapters are affiliated into State associations, and from the State associations is formed a national association. The associations, which are for boys enrolled in vocational agriculture, afford training in rural leadership activities.

Vocational education in home economics in high schools is designed to prepare individuals for the responsibilities and activities involved in homemaking and in achieving family well-being. As in agriculture, vocational education in home economics provides day-school instruction for youth and additional part-time and

evening classes for adults and out-of-school youth.

Homemaking education includes instruction in financial planning, in management of time and energy, in human relationships, and in creating and appreciating beauty, as well as in the mechanics of housekeeping. Learning experiences carried on at home and in the community as well as in the classroom are a planned part of the vocational home economics programs. Time is provided in the teacher's schedule for conferences with individual pupils and for visiting in homes and consulting with pupils and parents on home projects.

Thousands of farm boys and girls go from rural high schools each year to colleges and universities. The use of State funds to support the State colleges and universities also reduces somewhat the cost to the student of a college education.

### ***Private Organizations Provide Services***

A number of civic and philanthropic organizations provide services to agriculture. The Farm Foundation, a privately financed organization, set up about two decades ago, carries on work designed to improve farm life in general. It has



**A schoolbus stops to pick up farm children near their home.**

Use of publicly operated buses makes it possible to serve wider areas with larger schools, called "consolidated schools."



emphasized, through studies and conferences, such matters as rural education, farm tenancy, the importance of the family farm, and rural health and hospitalization. The American Country Life Association, organized in 1919, has annual meetings focused around such topics as rural government, disadvantaged groups in rural life, national policies affecting farmers, and religion in rural life.

In recent years, many religious groups have shown much interest in rural conditions. The main emphasis has centered around soil conservation, home ownership of family-sized farms, promotion of cooperatives, improvement of living conditions for migrant workers, and the development of rural leadership in church activities and in rural community betterment.

A few years ago, Protestant, Catholic, and Jewish leaders issued a joint statement of principles that should underlie man's relation to the land. Recognizing the land as the Creator's greatest material gift to man, the statement held that its widespread ownership is essential to human welfare, and that its use should be characterized by stewardship.

Essential services come to farmers from private industry, as well as from

the Government. Most of the railroad companies, for instance, have agricultural agents who promote improved farming practices. Railroad executives know that better farming means an increase in the movement of freight to and from farming communities. In most towns the chamber of commerce has an agricultural committee that works with farmers in matters related to conservation and to purchasing of farm supplies and marketing farm products. Some of the biggest merchandising establishments in the Nation have branch stores in the farm trading centers, or they reach farmers through mail-order business.

The daily mail and parcel post, publicly provided services, are in constant use by rural dwellers. One of their important uses is in ordering merchandise from the illustrated catalogs of the mail-order firms, and from advertisements in magazines and newspapers. Well-described products can be obtained within about a week after the order form and check are sent in. Pickup and delivery are at the farm mailbox. The catalogs are also used for comparing prices with those of merchandise available locally.

It should not be overlooked that

cooperatives are an important segment of private industry. Some of their services to agriculture were described in the previous chapter.

### ***Manufacturers Look for New Ideas***

Manufacturers of farm machinery, in competition with one another for farm business, are alert to incorporate the newest, best ideas into their machines. Each big company maintains an engineering shop and test farm. New machines are later tested in actual use on ordinary farms, and the breakdowns and achievements are watched by experts. Records of use are kept to indicate the life expectancy of tractors and other machines.

The vital matter of repair parts for farm machinery is usually taken care of by the dealer who sells the machines. Farmers seldom buy from a machinery dealer who does not also maintain a supply of parts for repairs. Successful dealers usually maintain service shops with mechanics who can repair the machines that have been sold. Many times, however, a farmer goes to his dealer for new parts and takes them home to his farm. There he may do the repair work himself or with the help of his son or a neighbor who is good at machinery.

The availability of parts and service is an important factor in the mechanization process on farms, for all machines require oiling, greasing, cleaning, and, sooner or later, adjustment and repair.

There is strong competition among the producers of the machinery and other manufactured commodities that farmers use. A business that does not make use of the latest research findings and keep pace with developments affecting its products soon discovers that its business is being lost to more progressive concerns.

### ***Private and Public Research Enrich Each Other***

Many of the larger producers of seed, plants, and nursery stock conduct their own research in the breeding of better varieties. They sell the improved seed in small packages to home gardeners and in wholesale quantities to the big growers.

Farmers benefit from the profes-



A rural consolidated school, to which pupils are brought by publicly operated bus. Students receive free education that prepares them to enter college or university. Some rural areas still have old-time neighborhood schools with one or two teachers. To these the children come by walking.



sional meetings of the agronomists, animal breeders, etc. It is common for research workers in private industry and in Government to take an active part in the same professional organizations. Many farm-equipment companies have employees whose duty is to keep in close contact with agricultural engineering and related research developments by the State agricultural experiment stations and the United States Department of Agriculture. In these ways, private and public research enrich each other.

Government scientists engaged in utilization research often find new uses for agricultural products, but the large-scale application of their findings is left to commercial concerns. For example, portions of pyrethrum were first synthesized in the Government laboratory at Beltsville, Md. Then, within 6 months, insecticides containing synthetic pyrethrum were being produced commercially by private concerns.

The development of a new product often involves other countries. In the late 19th century, a German chemist made DDT and entered its formula in a list of chemical curiosities. Years later a Swiss dye company came across it in a search for a moth poison that could be included in the dyeing process.

During World War II a Government insect research laboratory in Orlando, Fla., was screening thousands of

chemical compounds to find a louse poison that could be made in quantity out of native United States products. It turned out that DDT was the most promising compound investigated. After the formula for making it was reconstructed at the Beltsville laboratory of the Department of Agriculture, the commercial makers of insecticides were asked to equip themselves for quantity production for military use.

It was found that DDT was also useful against mosquitoes, fleas, bedbugs, and flies. It later proved its usefulness in controlling many strictly agricultural pests, such as the European corn borer and the white-fringed beetle.

A similar story can be told of penicillin, which was originally discovered by English scientists. Large-scale production became feasible only after one of the research laboratories of the United States Department of Agriculture found an organism to serve as a source of penicillin.

Then Government researchers conferred with the scientists of some of the big commercial drug companies, and together they devised great vats in which penicillin could be produced in large quantities. The private companies continued to improve their methods of production, while Government researchers maintained pure cultures of the organisms to supply the commercial companies that wished to produce penicillin.

## ***Farm Press and Broadcasting— A Connecting Link***

The farm press, radio, and television are important media through which the results of public and private research are brought to farmers. General farm magazines and weekly newspapers report political developments affecting agriculture, new research developments, and successful farm operations by individual farmers. Illustrated articles describe better ways of farming. There are also magazines for specialized commodity groups, such as livestockmen and poultrymen. Farm radio and television programs feature weather forecasts, market reports, farm news, and informal interviews and demonstrations presenting research results and better farming methods.

Much of the cost of farm magazines is paid by advertisers who use these media to call their products and services to farmers' attention. Thus the subscription price of the magazines is kept low. Many farm radio and television programs are sponsored by commercial advertisers. The advertisements themselves often present new and better ways of doing farm work, as a means of catching the farmer's interest.

These farm information media help greatly in bringing about farmer appreciation and use of public and private agricultural facilities and services.



**Church steeples rise above this small Maryland trading center.**

Small town and country churches are often the center of community activities for farm people. Most communities have more than one church. In sparsely settled areas, a single church building may serve two or more religious groups on alternate Sundays.



# The U. S. Department of Agriculture

The United States Department of Agriculture, like the land-grant colleges, developed in response to the wishes and needs of the farmers. Interest in new varieties of fruits, vegetables, and other crops was widespread on the new continent from the first.

## *Early Developments*

Thomas Jefferson and Benjamin Franklin sent home seeds and plants from Europe when they were there on diplomatic missions. This service came to be expected of consuls and naval captains. The practice developed of sending the seeds and plants to the Patent Office, the only scientific agency in the young Government.

The Commissioner of Patents began to distribute the seeds to farmers, without special authorization of Congress, and to plead for the publication of agricultural statistics. In 1839, Congress granted the Patent Office, then in the Department of State, the right to expend \$1,000 for agricultural purposes out of its current income. As the settlers spread westward, it became clear that special varieties of crops and livestock were needed for the different parts of the country. Ultimately, an agricultural division was established in the Patent Office, and there was constant demand for a Federal Department of Agriculture.

In 1862, during the Civil War, some important agricultural legislation was passed by Congress and signed by President Abraham Lincoln. One enactment created a Department of Agriculture, but without Cabinet status. Another act provided for giving farms, of 160 acres each, from the public domain on the unsettled frontier to citizens who would make homes on them and cultivate them for 5 years. Still another was the Land Grant College Act, already discussed.

The Bureau of Animal Industry was established in 1884 to prevent the spread of contagious diseases among domestic animals and poultry. The

farmers also wanted agricultural experiment stations close by, subject to their control and sensitive to local soil and climate conditions. In 1887, therefore, Federal aid was offered to the States for this purpose, the experiment stations to be under the supervision of the land-grant colleges.

After widespread public agitation, the head of the Department was made a member of the President's Cabinet in 1889. Thereafter the Department gradually assumed its present status by a process of evolution in response to many acts of Congress.

In general, the interest of the Department was first centered on aids to production, and therefore on research in physical and biological sciences: soil classification, plant and animal breeding and disease control, forestry, chemistry, and entomology.

With the passage of time, marketing problems came to claim more and more attention. In 1913 a bureau was established to carry on marketing research and render other marketing services to agriculture.

When it became clear that many farmers were not in a good position to know and take advantage of the Department's research findings, the program of farmer education known as "extension service" was begun. The act of 1914 authorized educational and demonstration work in agriculture and home economics. The work, as described in the previous chapter, was carried on largely by the land-grant colleges under co-operative agreements with the United States Department of Agriculture.

Other legislation provided Federal support for teachers of vocational agriculture in high schools, a program now supervised by the Department of Health, Education, and Welfare. As a result of these programs, the majority of farmers came to have access to the scientific discoveries of the State colleges, experiment stations, and the Federal research laboratories. Lending agen-

cies of several kinds were set up, from time to time, to meet special credit needs of farmers. Protection of natural resources received attention as land settlement became more complete, and forestry and soil-conservation work grew in importance.

One of the Department's earliest activities, the gathering of agricultural statistics, rapidly increased in volume and use. It expanded to include economic and social research as people began to realize that more was involved in successful farming than physical factors alone.

In the late 1920's and early 1930's came a series of acts setting up the "action programs." In general, they reflected urgent needs of the times, but they also represented an effort to accelerate the process of introducing better production techniques, and of carrying information about them to farmers in local communities.

As improved farming practices resulted in steadily increasing output, which markets at home and abroad were unable to absorb, the bountiful production of United States farms became embarrassing. Farmers produced more than they could sell at profitable prices and they were faced with serious financial difficulties.

## *The 1930's Brought Expansion of Agricultural Services*

The economic depression of the 1930's brought a series of remedial laws. Institutions resulting from some of these laws have continued to be parts of the Department. Major farm legislation has often come in periods of reduced prosperity or out of nationwide efforts to improve the condition of farmers who were especially disadvantaged because of weather, isolation, or adverse social and economic conditions.

Measures used to dispel economic handicaps affecting agriculture included liberalization of credit facilities, support of prices for farm products, surplus disposal programs, and a number of special programs to meet particular needs. Production was curtailed by limiting acreage to be planted and by other means. As economic recovery was achieved and the purchasing power of millions of industrial workers rose, the market for farm products improved. Suddenly World War II created a rise in demand. Price supports and acreage



goals then were used to encourage farmers to grow all they possibly could.

Since the end of the Korean conflict, heavy production and the development of surpluses have raised a number of questions. How much price support should be continued? Should farm income be stabilized? If so, at what level and by what means?

The question of prices for farm products has long been recognized as an outstanding issue. Urban as well as rural people have become sensitive to the fact that agricultural declines in American history have had a way of becoming national depressions, sometimes with international repercussions.

### *The Congress Determines Agricultural Policy*

Major policy determinations are made by the Congress of the United States through the enactment of legislation. Important changes in legislation generally are made only after extensive hearings which provide opportunity for interested groups to present their points of view. Generally, too, the executive departments assist by presenting technical analyses of the various proposals under consideration.

Farmers, of course, are only one of the many segments of society whose needs must be recognized by Congress. It is a part of the United States political system that groups with common interests band together and support legislation they want. Among the other organized groups that Congress considers are the representatives of the manufacturers, bankers, transportation companies, organized labor, and some of the larger professional groups. Congress hears all of them and then makes whatever decisions seem best.

In a political system such as that of the United States—where the Members of Congress are subject to reelection—it is important that all groups be effectively represented when their interests are involved. Farmers, then, in playing an important part in determining agricultural policy, are performing wholly within the tradition of this country.

Agricultural policy is constantly changing to reflect new developments, new viewpoints, and changing needs.

Out of the experience of the past 30 years or more there has emerged a clear recognition that the purchasing power of a farm product in terms of things farmers buy is equally as important as the price it brings in monetary terms. This concept has been given practical expression in the idea of "parity," that is, a price for a commodity which will give it currently the same purchasing power in terms of commodities farmers buy that it had in some base period when price relationships were considered to be reasonably satisfactory.

Parity prices have provided over the years an essential basis for most of the price-influencing programs which the Department has administered. The methods of computing parity prices are specified in considerable detail by law and have been changed from time to time in the light of experience, but the concept seems thoroughly incorporated in agricultural policy.

### *The Department of Agriculture Is Large and Complex*

The United States Department of Agriculture in 1954 included 14 agencies, most of them called "services." The agencies have different internal organizations, as each is built to do a

different job and they may function in very different ways.

The head of the whole Department is called the Secretary of Agriculture and is appointed by the President of the United States. As a member of the President's Cabinet, he participates in formulating policies relating to the entire Nation. As administrative head of the Department of Agriculture, acting under authority vested in him by the Congress, he formulates policies and administers programs concerned with agriculture. A National Agricultural Advisory Commission, appointed by the President, assists him in reviewing policies and administration of farm programs. This 18-member bipartisan body is made up mostly of representative farmers. It may not include more than nine members from each political party. The heads of the various services within the Department are appointed by the Secretary.

Nearly all the other employees of the Department obtain their positions through competitive examinations and through promotions for which they must prove their qualifications. As these employees are protected by legislation against arbitrary dismissal, the services of the Department continue with relatively little interruption when political changes occur.



The U. S. Department of Agriculture buildings in Washington, D. C.

The Department has about 9,000 employees in Washington, most of whom work in the large building shown here. An even larger number of the Department's employees work in State and county offices where they are in close touch with farmers.



We shall now mention the principal activities of the major subdivisions of the Department. Detailed information can be obtained upon request, from each of the agencies.

The various agencies of the Department of Agriculture are combined into four main groups; namely, Federal-States Relations, Marketing and Foreign Agriculture, Agricultural Stabilization, and Agricultural Credit.

### ***Fundamental Research and Relations With States***

The first group of agencies includes the Federal Extension Service, whose activities were discussed in the previous chapter.

Also in this group is the AGRICULTURAL RESEARCH SERVICE (ARS), which conducts basic research in physical, biological, chemical, and engineering fields, as well as the economic phases of production research. In addition, it coordinates all research in the Department.

The work of the ARS is of three general types: That of the Office of Experiment Stations; that dealing with research in crops, livestock, human nutrition and home economics, utilization of farm products, and farm and land management; and regulatory programs for crops and livestock.

The Office of Experiment Stations administers Federal funds appropriated for partial support of State agricultural experiment stations. It takes an active part in planning and coordinating cooperative regional research among State stations. It directs the Federal experiment stations in Puerto Rico and Alaska and the agricultural research and extension programs in the Virgin Islands.

Crop research is concerned with reducing the hazards of production and improving the yield and quality of field crops, fruit, nut, and vegetable crops and ornamental plants, and with controlling plant diseases and nematodes. ARS entomologists study insects and work to develop practical methods for destroying harmful ones and promoting increase and spread of beneficial insects, including honeybees.

Livestock research is concerned with development of better livestock, poultry, domestic fur animals, and

animal products through improved breeding and management and through control or eradication of livestock diseases and parasites.

Human nutrition and home economics research seeks, through both laboratory and field investigations, to provide basic scientific information concerning food, nutrition, textiles, clothing, housing and household equipment, and family economics.

The purpose of utilization research is to develop new and improved products from agricultural commodities, to find better commercial methods for preserving foods and feeds, and to increase use of farm crops and by-products as industrial raw materials. The Northern, Southern, Eastern and Western Utilization Research Branches work primarily on major crops of their regions; the Washington Utilization Research Branch works on preservation of dairy and meat products, and on the chemical and immunochemical nature of allergens of agricultural products.

In the field of crop regulatory programs, the ARS cooperates with State and local agencies in programs to control insect pests and plant diseases that occur in outbreaks or that have become established in limited areas. The ARS also enforces plant quarantines and related orders to prevent introduction and spread of injurious plant pests.

Livestock regulatory programs are concerned with eradication and control of livestock diseases and parasites, inspection of import and export livestock, sanitary control of imported animal products, and administration of the Federal Meat Inspection Act.

Soil and water conservation researchers seek to develop better soil, crop, and water management practices, to improve fertilizers and liming materials, and to determine the relation of soils to plant, animal, and human nutrition. Engineers conduct research on safe and efficient uses of farm power, labor, machines, and materials. They seek to improve farm machinery, equipment, and methods for preparing farm products for use or sale. Research is also conducted on farm structures, seeking to design stronger, more economical farm storage and service buildings, better animal housing, and more livable farm homes. Production eco-

nomics research is concerned with the more efficient use of human and natural resources on farms. This involves studies of the organization and operation of individual farming units and also studies of the place of farming in the whole economy. Analysis of farm efficiency includes research in economic phases of farm labor, farm electrification, farm equipment and machinery, farm structures, fertilizer, and livestock feeding.

Various statistical indexes are developed to measure farm output and productivity on a national and regional basis. Agricultural finance research deals with credit facilities for farm living and production, farm insurance, and taxation. Other production studies analyze the economic use of land and water, irrigation laws, farm real estate values, and farm tenure.

An important part of the research of ARS Branches is carried on at the Agricultural Research Center, located not far from Washington, D. C., at Beltsville, Maryland.

Besides the Extension Service and the Agricultural Research Service, there are four other agencies included in the first grouping:

The SOIL CONSERVATION SERVICE provides technical assistance to farmers in applying sound practices of soil and water conservation on individual farms. This is done through more than 2,600 organized soil conservation districts containing nearly 90 percent of all farms. (As explained earlier, the districts are State governmental units.)

The SCS is responsible for all soil survey activities of the Department of Agriculture. Soil surveys are made cooperatively with State land-grant colleges and other agencies. They are designed to furnish soil maps and interpretations needed in research and educational programs, in technical assistance to farmers, and in other programs dealing with soils and land use. Soil surveys are needed to find out the nature and kind of soil. The nature of each soil is studied in relation to research results and experience to predict the kind and quality of crops that can be most economically grown under systems of good management.

The SCS also aids organized groups in small watersheds in planning and



applying programs of watershed protection and flood prevention.

The FOREST SERVICE is responsible for protecting and managing the timber, water, forage, recreation, and wildlife resources of the national forests. These public forests include one-twelfth of the land in the 48 States.

The FOREST SERVICE has primary responsibility for Federal research on forest lands and related range lands. Research in forest and range management is concerned with growing, harvesting, and utilization of timber products; with management and efficient use of range forage; and with management of these lands for the greatest yield of usable water and a minimum of erosion. Research in forest protection is concerned with control and prevention of losses in timber production due to fire, insects, and disease. Research in forest products is directed toward their efficient and economical utilization. Research in forest economics is concerned with the nationwide Forest Survey and with production economics and marketing problems of forest products. Results of all forest and range research are made available to farm and nonfarm woodland and rangeland owners through other appropriate services of the Department. The FOREST SERVICE cooperates with the States and private forest landowners on 427,000,000 acres of their forest lands and critical watershed areas: (a) To obtain better protection against fire, insects, and disease; (b) to obtain better forest practices on lands in private ownership; (c) to aid in the distribution of planting stock for forests, shelterbelts, and woodlots.

The AGRICULTURAL CONSERVATION PROGRAM SERVICE shares with farmers the cost of certain soil and water conservation practices, as described in the previous chapter. About 2½ million farmers have received cost-sharing assistance annually in recent years.

The FARMER COOPERATIVE SERVICE conducts research and carries on service and educational activities helpful to farmers in connection with cooperatives that market farm products, purchase farm supplies, and furnish business services. The work of the Service relates to problems of management, organization, policies,

merchandising, quality, costs, financing, efficiency, and membership.

### **Marketing and Foreign Agriculture**

Another major grouping of the Department's activities embraces agencies dealing with the marketing of farm products, and foreign agricultural relations. It includes the Agricultural Marketing Service, the Commodity Exchange Authority, and the Foreign Agricultural Service.

The work of the AGRICULTURAL MARKETING SERVICE (AMS) includes reporting, research, and regulatory activities related to marketing farm products. This agency collects most of the basic statistics on which both production and marketing research depend, including crop and livestock estimates and market news, economic analysis and outlook work.

The crop and livestock estimates provide periodic reports of current crop and livestock production, estimates of stocks on hand for important crop and livestock items produced, as well as other agricultural data. National averages of prices received and paid by farmers are also published monthly, as well as data on parity prices—the basic price support data.

The Market News Service supplies daily news of prices and market conditions to radio and television stations, and to newspapers. Reports cover the leading farm commodities at markets in all parts of the country.

The economic research of the AMS deals with prices and marketing, farm incomes, farm population, and rural life. Many other statistical series are also brought out by this agency. The analysts of the AMS, working with those of the ARS, have the job of interpreting these statistics and other economic data for the annual outlook conferences. They weigh the effects on agriculture of changes in the general business situation, industrial employment, national income, price trends, and international relations. Their analyses of the prospective supply and demand for a wide range of commodities are published monthly. The information goes quickly to farmers through the county agents, and through newspapers, magazines, and radio.

Outlook work is a vital part of economic analysis activity. This is of special service to farmers as they decide for themselves, year by year, how much to produce of the various farm commodities. Each fall, a National Agricultural Outlook Confer-



An Agriculture Department statistician calls on a Kansas farmer to get data on crop conditions.

Monthly and annual crop, livestock, and price reports are issued for each State by the United States Department of Agriculture. The State statisticians, through personal contacts, mail questionnaires, and voluntary assistance from farmers, collect information at regular intervals from farmers in all parts of the State. Attention is also given to soil moisture and other factors relating to production.



ence is held in Washington where economists and home economists of the Federal group and representatives of the State extension services discuss the farm outlook, in terms of income and family living, as well as the outlook for each major commodity in the year ahead. The results of these sessions, properly adapted to local conditions, are taken to farmers and their families by agricultural extension workers during the winter season.

Another part of marketing research is the study of physical, biological, and engineering factors which help to maintain quality, reduce waste and spoilage, and minimize the labor required in the distribution process. Here, too, the AMS works closely with the ARS researchers. Sometimes such research discovers rather simple changes in prevailing methods which result in great savings of labor or improvements in quality. For example, studies made cooperatively with the Michigan Agricultural Experiment Station showed that cherries hauled in water from orchards to canning plants retain their original quality better than those moved in the usual way, by loading in shallow wooden boxes.

The control of quality depends on the existence of objective methods for measuring quality, not subject to errors of judgment. The need for such methods, both for the purpose of controlling quality and as a basis for grades and standards, has led to a steadily accumulating series of objective methods and devices, applicable to a wide variety of agricultural products.

With so many and such varied stages involved in the distribution process, it is rather difficult to evaluate the efficiency of marketing. However, the economists have an index number, called the "farmer's share of the consumer's food dollar," which measures changes in the proportion of retail food costs going to the farmer, as compared with the part going to pay for market costs. The latter varies, of course, for different commodities, and it averages out for all foods combined to about half the retail cost to consumers. Study of such costs helps to identify points where research is needed to improve the efficiency of marketing.

Another aspect of marketing research is the study of "consumers' preferences"—that is, finding out the varieties, grades, and forms in which consumers prefer the products they buy. This is done by interviewing small samples of individuals or families scientifically chosen to represent the entire population.

Similar surveys are made of industrial users of agricultural commodities. This, along with other research on merchandising and distribution, shows opportunities for broadening the markets for farm products.

The AMS also administers many congressional acts related to the marketing of agricultural products. The Food Distribution Division of the AMS administers a program which makes low-cost lunches available to millions of school children. It also supplies schools and charitable institutions with perishable foods that are temporarily in overabundant supply. The various commodity divisions, besides developing official standards of quality, provide inspection services to buyers, sellers, or other interested parties. They also administer numerous regulatory laws to insure fair marketing practices.

The COMMODITY EXCHANGE AUTHORITY works to insure fair play and honest dealing in trading on commodity exchanges such as the Chicago Board of Trade and the New York Cotton Exchange. It has general supervision of trading in futures in agricultural commodities under regulation, for the prevention of cheating and fraud, "cornering" and price manipulation, and spreading of false information to influence prices. Under its regulation, the right of farmers' cooperative marketing associations to become members of commodity exchanges has been established. It publishes current information on trading in commodity futures.

The FOREIGN AGRICULTURAL SERVICE is the arm of the Department of Agriculture that promotes the export of American farm products, protects domestic agricultural markets from unfair foreign competition, and furnishes United States agriculture with basic information on world markets and competition. Such information is valuable both in obtaining foreign markets and in adjusting domestic operations to changing world conditions.

FAS carries out its market development programs in various ways. It works with foreign governments and traders to overcome currency problems, meet foreign market preferences, and obtain equality of treatment for United States farm products in the world market. It analyzes and disseminates firsthand information on world markets and competition. It helps exporters in this country and importers in other countries to get together under conditions favorable to trade.

Leadership in carrying out Government-wide programs to increase the foreign marketing of farm surpluses has largely been placed in FAS. This agency is also responsible for directing the work of United States agricultural attachés in other countries and for the Department's participation in international organizations, trade and tariff conferences, and foreign technical assistance programs. Administration of import programs, to protect the domestic price structure from unfair foreign competition, also is an FAS responsibility.

### *Agricultural Stabilization*

The third group of agencies includes those engaged in programs for crop adjustment and stabilization of prices of farm products. The principal agency in this group is the COMMODITY STABILIZATION SERVICE (CSS), which administers programs relating to: Production adjustment, including acreage allotments and marketing quotas; price support; supply and foreign purchase; stabilization of sugar production and marketing; the International Wheat Agreement; procurement, handling, payment, and related services on assigned purchase and export programs; and assigned food activities for defense. Personnel and facilities of the CSS are used in the administration of another service in this group, the Commodity Credit Corporation.

The COMMODITY CREDIT CORPORATION is the financial agency through which the prices of farm commodities are supported for producers by loans or purchases. The support prices are provided in accordance with congressional legislation. The support program, arrived at by the board of directors of the Corporation, is put into effect locally throughout the country by the Commodity Stabiliza-



tion Service and the nationwide farmer ASC committee system, described in the previous chapter. The CCC is also the agency through which foreign and domestic agricultural supply programs are carried out. These were of tremendous importance during World War II and in meeting the food needs in other countries after the war.

The **FEDERAL CROP INSURANCE CORPORATION** is a Government-owned corporation in the United States Department of Agriculture. Its services to farmers were described in the previous chapter. Federal crop insurance is still in the experimental and development stage, and is available only for certain crops and in certain counties.

### *Agricultural Credit*

The fourth group of the Department's agencies are those concerned with agricultural credit, namely, the **Farmers' Home Administration** and the **Rural Electrification Administration**.

The **FARMERS' HOME ADMINISTRATION** makes loans to farmers and ranchers who are unable to get satisfactory credit from other sources. Farm ownership loans are made to farm operators to develop or enlarge their units into efficient family-type farms and to tenants and other individuals for the purchase and development of efficient family-type farms. It also insures loans made by private lenders for such purposes.

Production and subsistence operating loans are made to farmers and stockmen for the purchase of livestock, machinery, seed, and fertilizer, and to meet other farm and home operating expenses essential to sound farming operations. These loans are made to enable farmers to make adjustments and improvements in the organization of their farm business and to adopt practices necessary for successful family-type farming.

Soil and water conservation loans are made to individuals and groups of farmers for financing the construction, repair, or improvement of irriga-

tion and farmstead water facilities, and for soil conservation measures. Most of these loans are made by commercial banks and other nongovernmental lenders, and insured by the **FARMERS' HOME ADMINISTRATION**.

Emergency loans are made to farmers and ranchers who have a temporary need for credit as a result of economic or production losses in connection with their crop and livestock enterprises. Technical guidance in planning and conducting successful farming operations is extended to farm families receiving farm ownership and production and subsistence loans.

The **RURAL ELECTRIFICATION ADMINISTRATION** encourages the extension of adequate electric and telephone service throughout rural areas by means of long-term loans. Loans are made to local business enterprises, including both commercial and cooperative organizations, and to public bodies. Loans are repaid from the operating revenues of the electric or telephone business.

A closely related credit service agency is the **FARM CREDIT ADMINISTRATION**. Until 1953 it was a part of the United States Department of Agriculture. Since then it has operated as an independent agency. The **FARM CREDIT ADMINISTRATION** exercises general supervision over a system of institutions designed to provide both long-term and short-term credit to farmers and to farmers' cooperatives.

For the purpose of effective administration, the United States is divided into 12 Farm Credit Districts. In each district there are: (1) A Federal land bank, which provides long-term real estate credit to farmers; (2) a production credit system, which provides short-term production credit to farmers; (3) a bank for cooperatives, which provides loans to farmers' cooperative associations; and (4) a Federal intermediate credit bank, which provides credit and discount facilities for local lending institutions and production credit associations.

The land banks work with local farm loan associations in extending

credit secured by real estate mortgages. Loan funds are obtained from private investors through the sale of bonds in the money markets. The Government does not guarantee these bonds. Loans of the production credit association are secured by chattel mortgages or crop liens. Loan funds are obtained by discounting farmers' notes with the Federal intermediate credit bank of the district.

The banks for cooperatives obtain their loan funds from Government capital, borrowings from commercial banks, and from the sale of debentures to investors. There is no Government guarantee of these debentures. The intermediate credit banks, which supply loan funds to the production credit associations, obtain their lending funds through the sale of consolidated debentures to investors. They are not guaranteed by the Government. Their capital stock is now completely owned by the Government.

One objective of this system of credit institutions is that they will become completely owned by farmers. This goal has been fully achieved by the land banks and is nearing attainment by the production credit associations.

The Secretary of Agriculture has six administrative staff agencies. These include the Office of Budget and Finance, Office of Personnel, Office of Plant and Operations, the Office of Hearing Examiners, the Library, and the Office of Information.

The Department Library serves as the national agricultural library and is responsible for collecting published literature, from other countries as well as domestic sources, on all phases of agriculture, and for making this literature available to the people of the United States through loans, photocopies, lists of references, and the monthly *Bibliography of Agriculture*.

The Office of Information is the central point of approval and issuance of publications and other information materials that originate in the many parts of the Department.

# Basic Rural Trends

Many people will want to know how the present facts about United States agriculture are related to previous conditions, and what the more important trends have been.

Agriculture in the United States has been characterized by change. One of the greatest changes has been in geographic space, as, over a period of more than three centuries, European settlers spread westward across the continent.

Equally great changes have come about through the use of science by farmers, and as a result of rising levels of living. Changes have also occurred in the contacts farm families have with their neighbors, with the people in nearby towns, and with the larger world. Rural community organization has undergone change, too, as farm people have come to rely more on organized groups and less on practices of mutual aid.

The increased use of machines and of science by farmers has been accompanied by changes in the proportion of the total population that lives on farms, and in the extent to which farmers supplement their incomes by other work.

## Farm Yields and Productivity Increase

The rapid increase in total agricultural production that occurred in the United States before 1920 was largely a result of bringing new land into productive use from the country's

vast reserves. Since then the total amount of cropland has remained nearly constant while the total population continued to increase. Cropland per capita decreased about a third, yet the people are better fed and clothed, and fewer of them are engaged in producing food and fiber. This simultaneous increase in population and decrease in farmworkers is strikingly illustrated in the accompanying chart, showing the ratio of consumers to farmworkers. During and after World War II this ratio increased sharply, until by 1953 it was estimated that each farm worker supplied enough food, fiber, and tobacco for himself and nearly 17 other consumers, 1 or 2 of whom lived outside the United States. This increasing productivity of labor and of land was partly made possible by the work of others in nonfarm employment; for example, those manufacturing fertilizer, making farm machines, and extracting fuel oil, as well as those engaged in research to develop insecticides, new breeds of livestock, improved seeds, etc. Such research on the part of Government and private industry probably contributed most to the rising farm output in relation to the time and money expended on it. Farm families in turn supplied many of the people needed for the ever-growing nonfarm labor force.

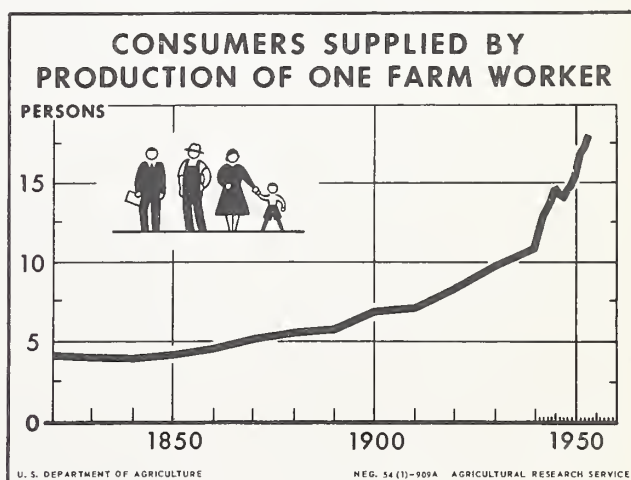
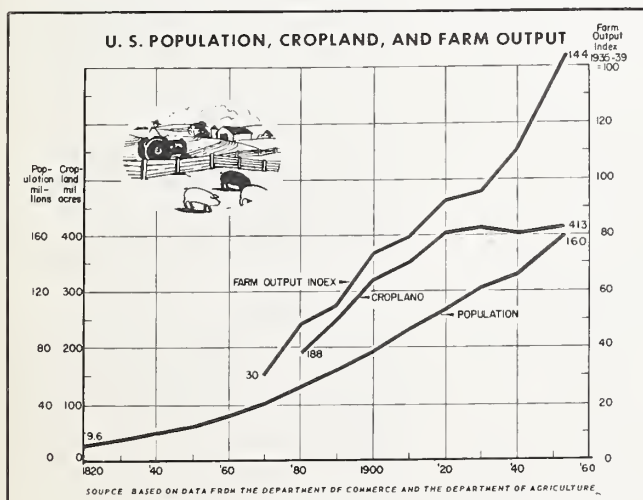
The increase in total production has come largely through higher yields, resulting from farmers' increased use of science and modern inventions.

Charts on the next page show the rising trends in yield per acre of corn, cotton, potatoes, and tobacco. The total milk production has increased because each cow produces more milk now than formerly. Likewise total egg production has increased because hens have been producing more eggs per year. Cows and hens have been bred for higher production and scientific feeding practices have become more general.

Perhaps the most important factor contributing to increased production per man-hour has been the use of farm tractors and laborsaving farm machinery. Other uses of science that have made a farmer's labor more productive include soil conservation practices, increased use of fertilizer, use of more effective insecticides, new canning and freezing processes, and improved methods of packaging, storing, and marketing farm products.

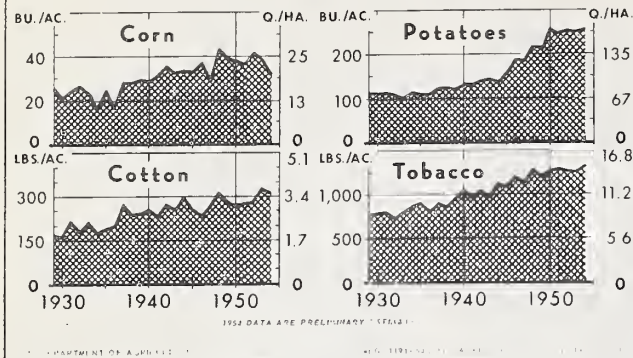
A farmer with a tractor can plow and then disk or cultivate more than twice as much in a day as he could with horses and mules. Moreover, the greater power of the tractor makes it possible for him to do his work more promptly. Some jobs can also be done better with tractors; for example, the construction of terraces that can be cultivated or mowed over, and deep plowing to conserve moisture.

The increased yields per animal and per acre make a man's labor more productive per hour, for it takes no longer to feed the higher-yielding animals and no longer to plant and cultivate the higher yielding acres of corn or cotton.

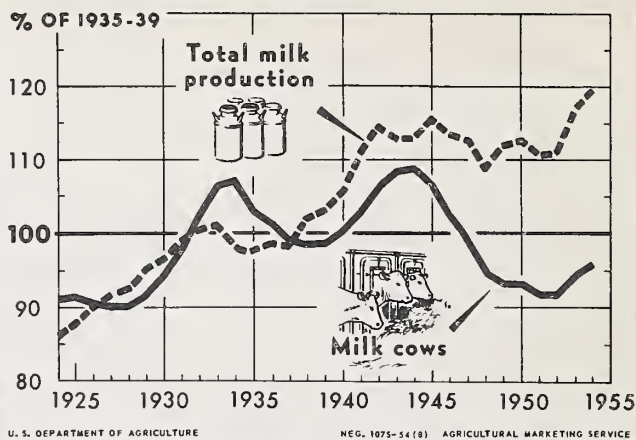




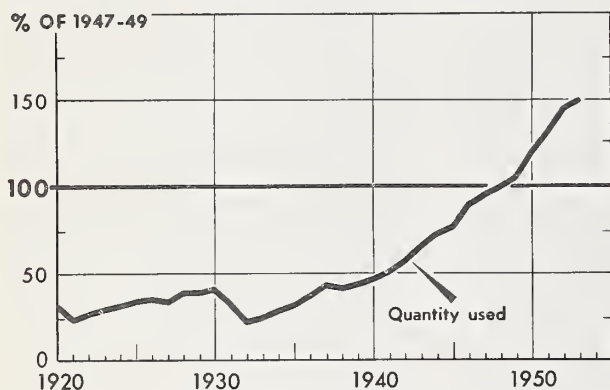
## YIELD TRENDS FOR CORN, COTTON, POTATOES, AND TOBACCO



## MILK COWS AND MILK

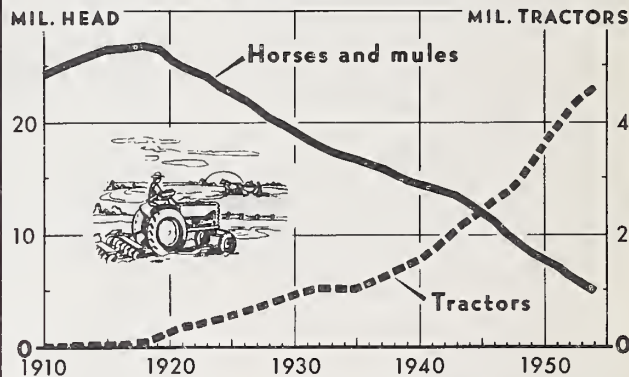


## FERTILIZER USE



U. S. DEPARTMENT OF AGRICULTURE NEG. 54 (9)-910A AGRICULTURAL RESEARCH SERVICE

## HORSES & MULES, AND TRACTORS ON FARMS JAN. 1



### Farm Tractors and Other Machines Are More Numerous

The number of farm tractors rose from about 1,000 in 1910 to 246,000 in 1920, then to 1.5 million in 1940 and an estimated 4.6 million in 1954. Less than 5 percent of the farms had tractors in 1920, but by 1954 over half of all farms were so equipped. On many farms there are two or more tractors.

Other farm machines, though not so numerous as tractors, have increased greatly—especially combines, cornpickers, side-delivery rakes, and milking machines. Relatively few cotton farms have mechanical harvesters, but the number of these machines has increased threefold in the past 4 years. In 1953 there were 16,000 mechanical pickers and 20,000 mechanical strippers. Even so, approximately 78 percent of all cotton was still harvested by hand in 1953.

As the number of tractors and other

power-driven machines has increased, the number of horses and mules used on farms has decreased. The estimated number in 1954 was about one-fifth of the peak number at the end of World War I.

The reduction in numbers of horses and mules since 1920 has made possible a shift of about 20 percent of our land resources to production of farm products for human use. This has been an important factor helping to bring about the increase in total production and in man-hour production. The continuing decline in farm horses and mules is releasing around 2 million acres of cropland each year for the production of food and fiber, but this trend cannot continue long since there are only about 5 million horses and mules left on farms.

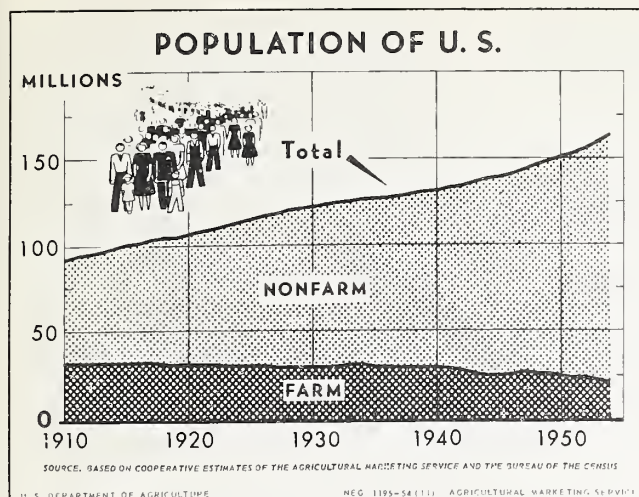
### Farm People Move to Cities

Data on the number of people living on farms before 1910 are lacking, but we know that only a lifetime ago

(in 1870) the country was predominantly agricultural, over 60 percent of all gainful workers being engaged in agriculture. By 1953, only 10 percent were employed in agriculture.

Farm population reached a peak of about 32 million in 1916, when 1 person of every 3 lived on a farm. Since then many of the young people raised on farms have moved to cities for employment upon completing their education. The practice of dividing a farm among the heirs in a family is rare in this country, as nonfarm employment opportunities are usually more attractive than operation of a unit too small for using a man's full energies.

We have seen that fewer and fewer workers were needed to maintain and increase the agricultural output. Farms have tended to become larger as technology has made it possible for one family to care for a larger operating unit. At the same time, the in-



creasing number of available nonfarm jobs has made it possible for many to live on very small farms while going elsewhere to earn their livelihoods.

By 1950 3 of every 10 farms were residential or part-time farms. Thus the total number of farms decreased only slightly, while farm employment dropped substantially.

It should not be assumed that practically all farms are either large producing units or small residential units. As noted in an earlier chapter, in certain areas there are many small subsistence farms whose operators can find very little opportunity for off-farm income near enough to where they live. These low-income farms are a matter of continuing concern and study by rural sociologists and economists.

The urban population made up nearly two-thirds of the total population in April 1953; a seventh of the total population lived on farms and a little more than a fifth were non-farm rural people living in the open country and in towns of less than 2,500.

### **Farms Have Increased in Size**

The number and average size of farms from 1900 to 1950 are illustrated in the chart. The rather moderate downtrend in number of farms, however, needs to be seen in the light of two basic facts already discussed in this booklet, namely, (a) that between 1930 and 1950 the number of part-time and residential farms increased by about two-thirds, while the number of commercial farms decreased about a third, and (b) that while farms tend to be consolidated

into larger units at one end of the distribution, more and more small units appear at the other end. Part of the former effect is due to the inclusion in farm units of additional western ranchlands.

The greatest increases in size of farms outside of the ranch country occurred in the Middle West and Great Plains, where the mechanization of farming has advanced most rapidly. An increase in size of farms also occurred in the cotton-growing South where many tenant units have been discontinued and their acreages absorbed in larger mechanized cotton farms or in livestock farms.

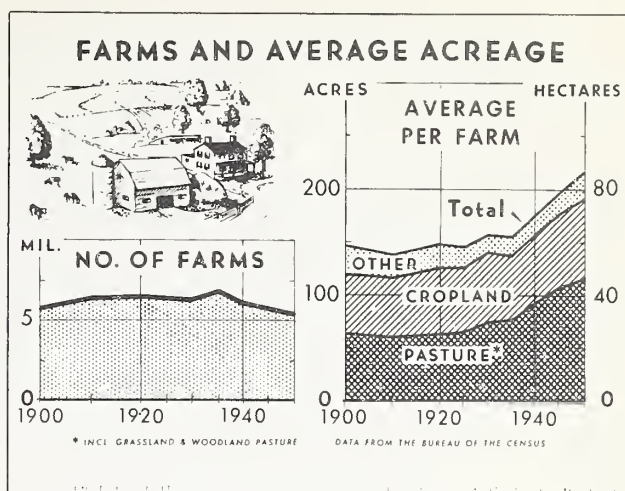
In the United States as a whole, the number of farms of less than 10 acres increased rapidly from 1920 to 1950, although changes in the inclusiveness of the census farm definition caused apparent contrary fluctuations at times. Farms in the middle-size

groups have been generally decreasing in number, while the very large farms—those of 500 acres or more—have increased.

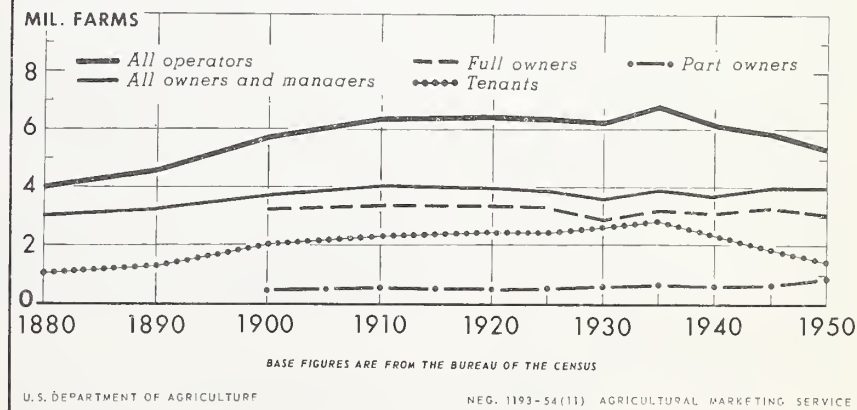
### **Farm Ownership Has Been on the Increase in Recent Years**

During the half century from 1880 to 1930, the proportion of all farms operated by tenants increased with each new census count. Since 1930, however, the rate of farm tenancy has been in sharp decline. After rising from 26 percent in 1880 to 42 percent in 1930, it had dropped back down to 27 percent in 1950.

This drop in the rate of farm tenancy has been due to a shift of tenants to the status of part or full owners, and also to the fact that many tenants quit farming. From 1930 to 1950 the number of owners increased about a third of a million or 10 percent. Many

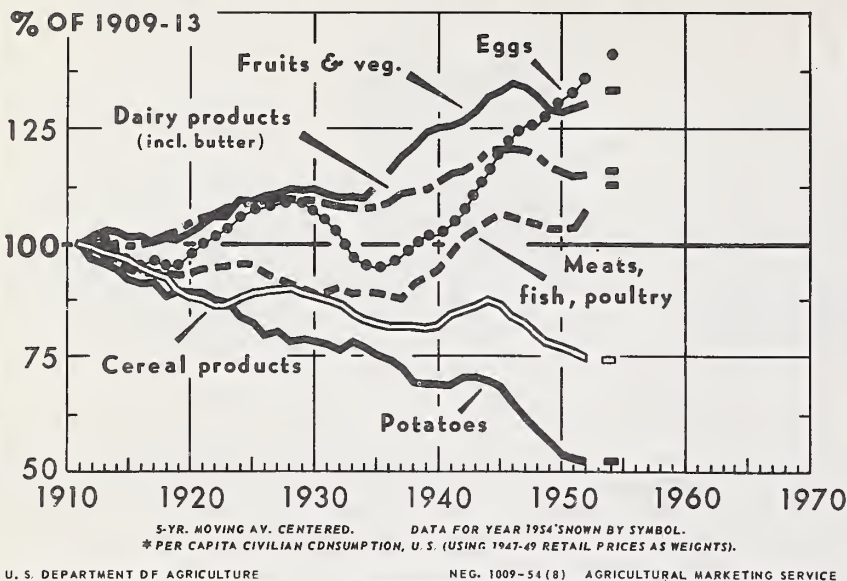


### NUMBER OF FARMS BY TENURE OF OPERATOR, 1880-1950





## TRENDS IN OUR EATING HABITS\*



of these are the small units of residential or part-time farmers; others are medium-sized farms bought in the prosperous post World War II years; many are partly owned farms, of which the owned portion was acquired since 1945.

While the rate of tenancy dropped about a third from its peak in 1930, the numbers of tenants dropped more than a million, or nearly half. The greatest decrease occurred in the South, where there was a pronounced shift away from sharecropping between 1940 and 1950. In particular, many Negro families quit sharecropping during the decade.

The number of persons working for wages on farms, too, has been decreasing in recent decades. Hired farmworkers dropped from an annual average of 3.4 million in 1910 to 1.9 million in 1953, or a reduction of 44 percent. Most of the change has occurred since 1935 as a result of increased use of machinery on farms and increased opportunities for off-farm jobs. The decrease was greatest in the North Central area, where farm machinery has become most widely used.

### Levels and Standards of Living Are Rising

Farm living conditions have gradually improved as the conveniences

long enjoyed by city people have become available even in remote farming areas. A most important recent trend has been the great expansion in availability of electricity on farms, made possible by the services of the Rural Electrification Administration and private utility companies. About 92 percent of all farms had electricity in 1954 compared with 33 percent in 1940, and 7 percent in 1920.



The farm family often eats in the kitchen.

The extra men are neighbors helping for the day. The homemaker's work is made easier by electrical appliances—a stove, a refrigerator, and running water supplied by an electric pump.

Within a few years after a farm is supplied with electricity, the family is likely to budget its income or savings for the purchase of various electrical conveniences and equipment. Electric lighting of the home and some farm buildings usually comes first, then the purchase of small appliances such as electric irons, followed by the purchase of a pressure water system, a refrigerator, and an electric washing machine, if funds permit.

Radios are not necessarily dependent on power line electricity, and many farms had radios before they had electricity. In 1950, 92 percent of the farms had radios—nearly as high a proportion as for city homes. Television is still a novelty to many farmers, but in those areas within range of telecast programs, many farm families are purchasing sets; as the price comes down through competitive mass production, the number of sets will further increase.

Early attempts to provide rural telephone service were not entirely successful and the 1920's and 1930's saw a decline in the percentage of farms with telephones. Now the Rural Electrification Administration has extended its activities into this field and the trend is up again; in 1954, 44 percent of all farms had telephones.

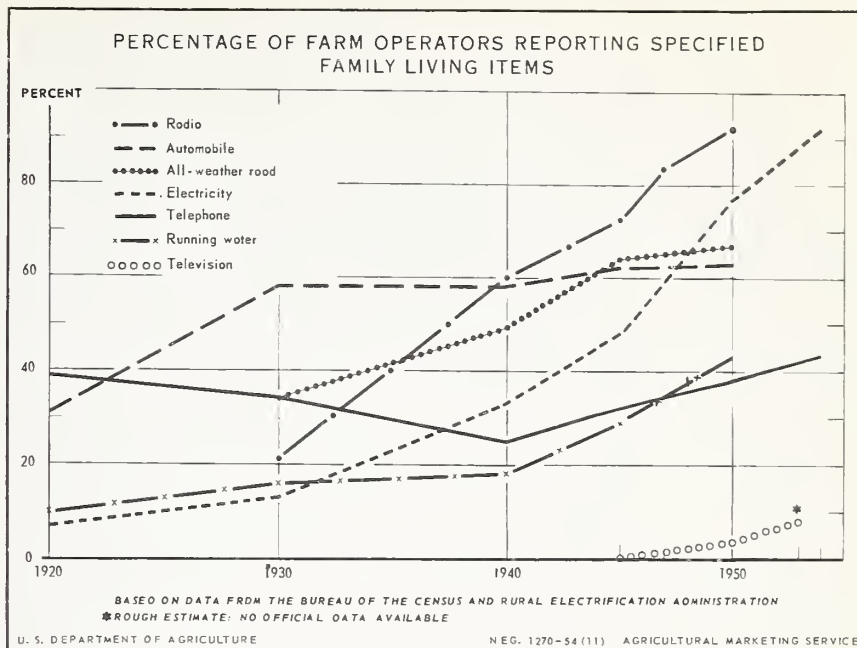
The means of transportation and communication are more important to farmers in the United States than in many other countries because of the greater distances between farms and from farms to markets. In 1950 most farms were 5 miles or more (8 kilometers) from the trading center they most often visited. Roads and automobiles are important for farm business, household purchasing, schooling, and social life. In 1950, two-thirds of the farms were on all-weather roads and only one-third on dirt or unimproved roads, whereas half had been in the latter category only 10 years earlier.

The great increase in automobiles on farms occurred in the 1920's and only a moderate increase has occurred since 1930. By 1950, 63 percent of all farms had passenger automobiles. An increasing number of farms have recently obtained motor-trucks, and in 1950 three out of four farms had either an auto, a truck, or both.

Rural people have shared with the urban population in a trend toward better nutrition. In the nation as a whole, per capita consumption of potatoes and cereal products has declined steadily since 1910. The per capita consumption of dairy products, fruits and vegetables, eggs, meats, fish, and poultry has increased, especially since 1940. Improved marketing practices for perishable foods, coupled with a rising level of living, have brought about these changes in the nutrition of the people.

Other measures of the rising level of living among farmers, not shown on the charts, include the continuing in school of older children and the availability of health services. The proportion of farm children 14 to 17 years of age who continued in school increased from 68 percent in 1930 to 80 percent in 1953. The proportion of rural babies born in hospitals increased from 32 percent in 1940 to 78 percent in 1950.

There is still much room for improvement. For example, over half the farm homes are without running water, and a sample survey in 1950 found more than a third of all farm-houses needing major repairs or having serious structural deficiencies. The widespread desire of farm families to raise their level of living has



been vitally related to their readiness to adopt new and better farm practices.

### *Rural Isolation on the Decline*

The traditional isolation of the farm family has been greatly reduced in recent decades by some of the developments discussed above.

Isolation of families has also been reduced by the more active interest of farmers and their wives in farm organizations and in other group activities. Farmers are arranging for more and more of their needs through formal organizations such as farmer cooperatives, farm commodity associations, home demonstration clubs, and parent-teacher activities.

### *Farmers, Accustomed to Change, Appreciate Self-Help*

The farm family in the United States has seen many changes. On the other hand, many conditions continue about the same. The farm family still lives off to itself on the farm, generally independent and self-reliant. Through the use of machinery and science, farmers have increased their production, put their land to better use, and are doing a more efficient job of conserving the soil.

The increased use of science and of household conveniences has resulted in larger cash expenditures

and less reliance on neighbors. As farmers' contacts have expanded, they have been meeting more of their needs through organized activities. Farmer-controlled organizations and cooperatives continue to grow.

Further changes will take place, the farmers know; and they expect to continue to make adjustments within the framework of representative government by elected officials, and to take a responsible part in deciding public policies affecting them.

As farmers appraise their own situation, there are indications that the best services that have come to them are those that have helped them to do their own job of farming better. In general they believe that the principle of helping people to help themselves has been a good investment in this country. It offers, too, a constructive formula for relations with farmers of other countries. The farmers of the United States today are indebted to the farmers of earlier years in many countries who worked out the initial basic advances in the domestication and care of farm animals and in the production of fruits and field crops. If there is now a way for the farmers of the United States to return the favor by sharing information about their production techniques with the farmers of other countries, it will be a satisfaction for them to do so.



# Appendixes

## Measures in Other Countries Equivalent to Some Measures Used in the United States <sup>1</sup>

System of measurement	1 United States acre equals—	1 United States bushel equals—	1 United States gallon equals—	1 United States pound equals—	1 United States short ton (2,000 pounds) equals—
Metric measures <sup>2</sup>	0.40 hectare	0.35 hectoliter	3.79 liters	0.45 kilogram	0.91 metric ton.
United Kingdom measures <sup>3</sup>	0.40 hectare	0.97 imperial bu.	0.83 imperial gal.	1.00 pound	0.89 ton (long).
Spanish measures	0.58 manzana	0.63 fanega	0.05 fanega	0.99 libra	0.99 tonelada.
Other measures, countries using:					
Afghanistan <sup>3</sup>				0.10 mahn	
Argentina <sup>3 4</sup>	0.24 cuadra	0.26 fanega	0.05 baril	0.04 arroba	0.91 tonelada.
Australia <sup>3 5</sup>				0.01 cental	
Chile <sup>3 4</sup>		0.36 fanega			
China	6.07 mow (shih)			0.91 catty (shih)	
Colombia <sup>3</sup>	0.63 fanegada			0.91 libra	
Costa Rica <sup>3 4</sup>		0.09 fanega			
Cuba <sup>3 4</sup>	0.03 caballeria	0.33 fanega		0.04 arroba	
Cyprus <sup>5</sup>	3.02 donum		0.10 kile	0.36 oke	16.23 cantars.
Denmark <sup>3</sup>	0.73 tonde			0.009 centner	
Dominican Republic <sup>3</sup>	6.43 tarea			0.91 libra	
Egypt <sup>3</sup>	0.96 feddan	0.18 ardeb	0.23 kilah	1.01 cantar	0.96 dariba.
Eritrea <sup>3</sup>				16.21 okia	
Germany <sup>3</sup>				0.91 pfund	9.07 double zentner.
Greece <sup>3</sup>	4.05 stremma	0.93 kile		1.00 pound	
Haiti <sup>3</sup>				0.91 libra	1.00 ton.
Indonesia <sup>3</sup>	0.57 bouw				
Iran <sup>3</sup>	0.40 jerib	0.54 artaba	0.46 collothun	0.15 batman	305.45 batman.
Iraq <sup>3</sup>	1.62 donum			0.02 man	36.29 man.
Japan <sup>3</sup>	0.41 cho	0.20 koku	0.02 koku	0.76 kin	15.12 picul.
Korea <sup>3</sup>	0.45 chungbo	0.195 suk	2.1 dai (sung)	0.75 kun	242 kwan.
Libya <sup>3</sup>	4.40 donum			0.35 oke	17.69 cantar.
Malaya, Federation of <sup>3 5</sup>				0.75 catty	15.00 picul.
Manchuria <sup>3</sup>			2.10 sho	0.75 catty	15.00 picul.
Mexico <sup>3 4</sup>	0.11 fanega	0.39 fanega			
Paraguay <sup>3 4</sup>		0.12 fanega		0.04 arroba	
Portugal <sup>3</sup>		2.55 alqueire	0.23 almude	0.99 arratel	61.76 arroba.
Syria and Lebanon <sup>3</sup>	4.04 donum			0.35 oke	3.54 cantar.
Taiwan (Formosa) <sup>3</sup>	0.42 ko	0.20 koku	0.02 koku	0.76 kin	15.12 picul.
Thailand (Siam) <sup>3</sup>	2.53 rai	1.76 tang	0.189 tang	0.756 chang	15.12 picul.
Turkey <sup>3</sup>	4.40 donum	0.93 kile		0.35 oke	16.07 cantar.
Union of S. Africa <sup>3 5</sup>	0.47 morgan	0.32 muid			
Union of Soviet Socialist Republics <sup>3</sup>	0.37 desiatina	0.17 chetvert	0.30 vedro	0.03 pood	5.54 berkovets.
Venezuela <sup>3 4</sup>	0.58 fanegada	0.30 fanega			
Yugoslavia <sup>3</sup>	5.78 donum			0.35 oke	708.74 oke.

<sup>1</sup> Most of the countries not listed use the metric system, sometimes along with Spanish measures (Latin American countries), or with United Kingdom measures (Commonwealth countries), or United States or other measures.

<sup>2</sup> 1 U. S. foot equals 0.30 meter, and 1 U. S. mile equals 1.61 kilometers.

<sup>3</sup> Also uses metric system.

<sup>4</sup> Also uses old Spanish system.

<sup>5</sup> Also uses United Kingdom system.

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# Some Facts About the United States

	<i>U. S. units</i>	<i>Metric units</i>
	<i>Number</i>	
1. Total population (Apr. 1, 1954) -----	161, 763, 000	
2. Farm population (Apr. 1, 1954) -----	21, 890, 000	
3. Total number of farms by size groups (1950 census) -----	5, 382, 000	
Under 10 acres..... (under 4 hectares) _	485, 000	
10-29 acres..... (4-11 hectares) _ _	854, 000	
30-69 acres..... (12-27 hectares) _ _	1, 051, 000	
70-139 acres..... (28-56 hectares) _ _	1, 200, 000	
140-259 acres..... (57-104 hectares) _ _	1, 011, 000	
260-499 acres..... (105-201 hectares) _	478, 000	
500-999 acres..... (202-404 hectares) _	182, 000	
1,000 acres and over (405 hectares and over) -----	121, 000	
	<i>Acres</i>	<i>Hectares</i>
4. Total land in farms (1950 census) -----	1, 158, 566, 000	468, 848, 000
Cropland, including acres harvested, failure, fallow, and idle -----	408, 506, 000	165, 314, 000
Open or nonforested pasture -----	484, 981, 000	196, 262, 000
Woodland pasture -----	134, 715, 000	54, 516, 000
Woodland not pastured -----	85, 100, 000	34, 438, 000
Other land in farms -----	45, 264, 000	18, 318, 000
5. Harvested area of selected crops, 1954:		
All corn -----	79, 875, 000	32, 325, 000
All wheat -----	53, 712, 000	21, 737, 000
Oats -----	42, 151, 000	17, 059, 000
Barley -----	12, 994, 000	5, 259, 000
Irish potatoes -----	1, 405, 000	568, 000
Soybeans for beans -----	17, 037, 000	6, 895, 000
Cotton lint -----	19, 187, 000	7, 765, 000
Rice -----	2, 405, 000	973, 000
Tobacco -----	1, 645, 000	666, 000
6. Yield per unit area for selected crops, 1954:	<i>Bushels per acre</i>	<i>Quintals per hectare</i>
All corn -----	37. 1	23. 3
All wheat -----	18. 1	12. 1
Oats -----	35. 6	12. 8
Barley -----	28. 5	15. 3
Irish potatoes -----	252. 8	170. 1
Soybeans for beans -----	20. 1	13. 5
	<i>Pounds per acre</i>	
Cotton lint -----	339	4. 0
Rice -----	2, 447	27. 4
Tobacco -----	1, 337	15. 0
7. Total production of selected crops, 1954:	<i>Bushels</i>	<i>Metric tons</i>
All corn -----	2, 964, 639, 000	75, 305, 000
All wheat -----	969, 781, 000	26, 393, 000
Oats -----	1, 499, 579, 000	21, 766, 000
Barley -----	370, 126, 000	8, 059, 000
Irish potatoes -----	355, 099, 000	9, 664, 000
Soybeans for beans -----	342, 795, 000	9, 329, 000
	<i>Bales</i>	
Cotton lint -----	13, 569, 000	3, 077, 000
	<i>Pounds</i>	
Rice -----	5, 885, 300, 000	2, 670, 000
Tobacco -----	2, 200, 134, 000	998, 000

## Some Facts About the United States—Continued

8. Number of livestock and poultry on farms, Jan. 1, 1954:				<i>Number</i>
All cattle and calves.....				94, 677, 000
Cows, heifers, and calves kept for milk- ing.....				37, 587, 000
Other cattle, including beef animals and bulls.....				57, 090, 000
All swine.....				48, 179, 000
All sheep and lambs.....				30, 902, 000
Chickens.....				439, 271, 000
Turkeys.....				5, 323, 000
9. Production of livestock and poultry products, 1953: <i>Carcass weight, including farm slaughter:</i>				
	<i>U. S. units</i>		<i>Metric units</i>	
	<i>Pounds</i>		<i>Metric tons</i>	
Beef.....	12, 444, 000, 000		5, 644, 000	
Pork, excluding lard.....	10, 063, 000, 000		4, 564, 000	
Veal.....	1, 559, 000, 000		707, 000	
Lamb and mutton.....	729, 000, 000		331, 000	
Chickens, including commercial broilers, oven dressed weight.....	3, 277, 000, 000		1, 486, 000	
Turkeys, oven dressed weight.....	709, 000, 000		322, 000	
Milk.....	121, 219, 000, 000		54, 984, 000	
	<i>Number</i>			
Eggs.....	61, 704, 000, 000			
10. Farm Tenure (based on 5,382,162 farms in 1950 census):				<i>Percent</i>
Percent that are full owners (own all land operated).....				57. 4
Percent that are part owners (own part and rent part).....				15. 3
Percent that are managers (operate land for salary).....				. 4
Percent that are tenants (rent all land operated).....				26. 8
11. Tractors on farms, Jan. 1, 1954.....				<i>Number</i>
12. Horses and mules on farms, Jan. 1, 1954.....				4, 600, 000
13. Motor trucks on farms, Jan. 1, 1954.....				5, 035, 000
14. Automobiles on farms, Jan. 1, 1954.....				2, 650, 000
15. Farms reporting one or more milking machines, Jan. 1, 1954.....				4, 450, 000
16. Combines on farms, January 1, 1954.....				730, 000
17. Cornpickers on farms, January 1, 1954.....				950, 000
18. Kilowatt-hours of electricity consumed on farms (1953).....				640, 000
19. Percent of farms having—				<i>Percent</i>
Central station electric service, July 1954.....				19, 468, 000, 000
Mechanical refrigerators, 1950.....				92. 3
Electric washing machines, 1950.....				62. 7
Electric water pump, 1950.....				58. 7
Radios, 1950.....				37. 5
Telephones, July 1954.....				92. 0
Television, 1950.....				44. 3
20. Median school years completed by rural farm people 25 years of age and over.....				3. 0
				<i>Years</i>
				8. 6
21. Number of cooperative extension workers, 1954.....				<i>Number</i>
22. Membership and coverage of farm organizations:				12, 670
	<i>Organization</i>	<i>Number of States covered</i>	<i>Total membership Farm families</i>	
American Farm Bureau Federation.....				48 1, 600, 000
Farmers Union.....				33 250, 000
				<i>Members</i>
The National Grange.....				37 860, 000
National Council of Farmer Cooperatives.....				48 3, 000, 000



# United States Department of Agriculture Employees

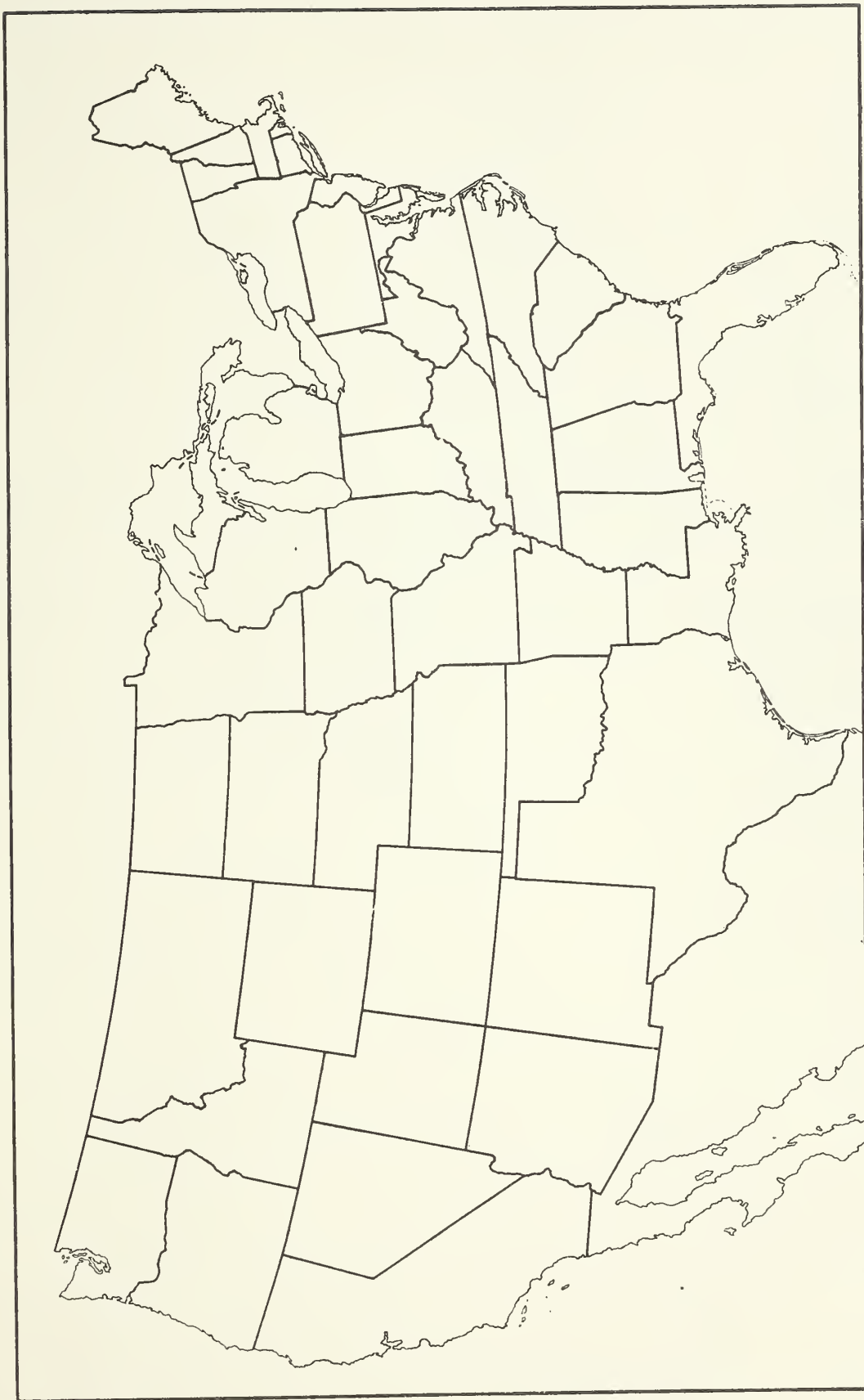
Monthly Report of Paid Employment as of End of September 1954, Inside and Outside Washington, D. C., Metropolitan Area <sup>1</sup>

Agencies	Full time		Part time and intermittent		Total
	In Washington, D. C.	Outside Washington, D. C.	In Washington, D. C.	Outside Washington, D. C.	
Total.....	9, 306	49, 437	251	14, 225	73, 219
Office of the Secretary.....	51				51
Office of Solicitor.....	249	117	1	2	369
Office of Budget and Finance.....	98	7			105
Office of Hearing Examiners.....	7				7
Office of Information.....	206				206
Library.....	138	11			149
Office of Personnel.....	84				84
Office of Plant and Operations.....	80				80
Working Capital Fund.....	160				160
Agricultural Conservation Program Service.....	51				51
Agricultural Marketing Service.....	1, 663	5, 069	12	652	7, 396
Agricultural Research Service.....	2, 901	9, 757	204	931	13, 793
Commodity Exchange Authority.....	32	83	1		116
Commodity Stabilization Service.....	1, 020	5, 263	6	214	6, 503
Farmers Cooperative Service.....	87				87
Farmers Home Administration.....	193	4, 703	1	<sup>2</sup> 5, 983	10, 880
Federal Crop Insurance Corporation.....	94	379		613	1, 086
Federal Extension Service <sup>3</sup> .....	201	14	1	1	217
Foreign Agricultural Service.....	378	7	1	1	387
Forest Service.....	418	12, 611	13	3, 146	16, 188
Rural Electrification Administration.....	781	189	2	7	979
Soil Conservation Service.....	414	11, 227	9	2, 675	14, 325

<sup>1</sup> Includes employees outside the continental United States.

<sup>2</sup> Includes 5,935 FHA State and county committeemen who performed service during the month.

<sup>3</sup> Does not include the cooperative extension workers (12,670 in 1954).



Outline map for personal notes.



